IDG.net

RFID tags set for takeoff in the airline industry.

Sybase's CEO: H-1B program benefits the U.S.

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JUNE 23, 2003 • VOL. 37 • NO. 25 • $5 COPY

warns that setting BPM priorities "is a challenge."

VANCE [illegible]

Tools FOR Tough Times

BPM **Customers say that business-process management software can pay for itself in a year or two by making better use of underperforming ERP systems.** **Page 27**

Book excerpt: [illegible] **Page 48**

NEWSPAPER

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PeopleSoft Offers Refunds In Event of Oracle Takeover

Apps vendor seeks to keep customers from delaying purchases following rival's hostile bid

BY MARC L. SONOINI

PeopleSoft Inc. has begun promising to pay refunds to some new or upgrading customers if it's acquired and the products they purchased are discontinued, sources said last week.

And on June 9, the same day that Oracle Corp. launched its hostile bid to buy it, PeopleSoft sent a letter to a potential customer that included a contractual offer to pay the user twice the cost of its software licenses. According to the letter, which was obtained by *Computerworld*, the payment would be triggered should PeopleSoft be bought within a year and if within two years the new owner drops the purchased applications or sets plans to stop supporting them.

The refund strategy is seen as an attempt by Pleasanton, Calif.-based PeopleSoft to keep concerned users from delaying software purchases because of Oracle's hostile bid. It could also serve as a "poison pill" takeover deterrent.

The takeover battle intensified last week, as Oracle upped its offer to $6.3 billion, and PeopleSoft and J.D. Edwards & Co. amended their merger agreement in an effort to speed up that deal.

The identity of the user that received the June 9 letter was shielded from *Computerworld*. PeopleSoft declined to comment about the letter and said it doesn't publicly discuss customer contracts. But a spokes-

PeopleSoft, page 16

KEY DEVELOPMENTS

ORACLE: raised its unsolicited offer for PeopleSoft to $6.3 billion in cash – a 24% increase over the original bid. It was rejected Friday.

PEOPLESOFT: began a tender offer for J.D. Edwards stock after both companies modified their merger deal.

UPDATED COVERAGE

IDS Criticisms Kindle Debate

Intrusion detection is more trouble than it's worth, Gartner says

BY JAIKUMAR VIJAYAN

A Gartner Inc. report that called intrusion-detection systems a failed technology that isn't cost-effective evoked fervent reactions last week from users, vendors and analysts on both sides of the argument.

Some concurred with Gartner's position, saying IDSs are difficult to manage and generate far more data than is useful.

"I couldn't agree more," said Eric Beasley, network administrator at Baker Hill Corp., an application service provider in Carmel, Ind., that replaced its IDS with a Web application firewall. "IDS did little to increase our overall security," he said. "All I got was information overload."

Others said that despite the problems, it's premature to completely write off IDS technology.

"I think that broadly describing IDS as a market failure because of product shortcomings is a bit alarmist," said Eric Goldreich, manager of technology at Latham & Watkins LLP, a law firm with 1,500 attorneys in Los Angeles. "The

IDS, page 61

N/MCI Security Doubts Persist

Users, Navy officials and EDS's partners still raising concerns

NATIONAL SECURITY

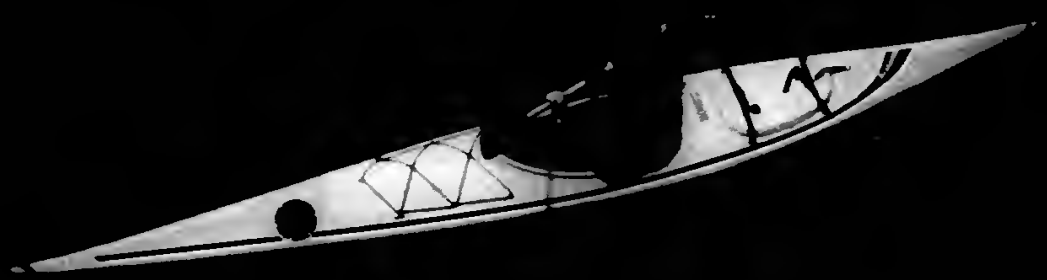
BY DAN VERTON
NEW ORLEANS

The need for a more secure network infrastructure was one of the driving forces behind the U.S. Navy's quest to build the $6.9 billion Navy/Marine Corps Intranet. But with only a few months left before the majority of N/MCI seats are deployed, questions and concerns about security remain.

During the Navy/Marine Corps Intranet Industry Symposium here last week, officials from both the Navy and its prime contractor, Electronic Data Systems Corp., touted N/MCI as "the most secure network in the Department of

N/MCI, page 61

Brain triggers rush of endorphins to help prevent panic.



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Well, we want you to know that we hear you, ond we've been doing everything we con to chonge the way we do business with you. Recently, we've revolutionized the industry by being the first to introduce flexible licensing controcts. With FlexSelect Licensing™, you con now get software on your terms, not ours. We offer short-term or long-term licensing agreements, so you con choose your commitment based on your needs. Of course, if you prefer more traditionol long-term licensing, it's still ovailable. And we offer payment plans thot fit the way you work, not the other woy oround.

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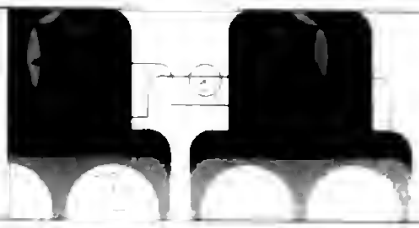

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Safeguarding Your Networks

SECURITY: Paul V. Mockapetris, inventor of the Domain Name System and chief scientist at Nominum, gives advice on ways to ensure that your networks are secure and reliable. **QuickLink 38707**

Does Privacy Pay?

MANAGEMENT: Yes, investments in privacy can pay off in the long run for companies in privacy-sensitive markets, writes columnist Jay Cline. He also provides a chart for figuring out if you engage in privacy-sensitive commerce. **QuickLink 39236**

Server Consolidation

OPERATING SYSTEMS: Avanade's Christopher Burry offers tips on when it makes sense to merge hardware — and when it doesn't. **QuickLink 39272**

Avoid Hidden Costs When Building Web-Based Apps

DEVELOPMENT: We all want to jump in and start coding, but you need to slow down and properly execute a discovery phase to ensure a successful development project, says columnist Seth Miller. **QuickLink 39195**

What Makes a Good CRM Package?

SOFTWARE: Charles Born of Amdocs' Clarify-CRM division outlines what to look for if you're in the market for CRM software. **QuickLink 39070**

What's a QuickLink?

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AT DEADLINE

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'Adaptive Management' Promising, but Years Off

Users applaud HP rollout but doubt that vision will become reality any time soon

BY MATT HAMBLEN
CHICAGO

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Starting in September, the Atlanta-based paper and chemicals manufacturer will begin managing two data centers after six years of outsourced management by IBM. The move is being made primarily to lower costs, said Sudip Gangopadhyay, manager of Unix technical services at GP.

With $23 billion in revenue in 2002 and more than 60,000 employees, GP will be managing a consolidated IT operation with 2,300 Windows servers and 140 Unix servers.

Conceptually, GP could marshal many servers and related systems to handle a new business demand and then be able to switch again quickly, Gangopadhyay said. The project has been in the planning stage for three years and relies heavily on HP's OpenView Operations software, as well as Network Node Manager and other products.

"With the adaptive technology and utility models of HP, there's a tremendous amount of value to using the computing resources as we need them," Gangopadhyay said. "Adaptive management is more of a concept [than a reality] at this point, but if we can reach up to 60% to 70% of the full concept, that's a win."

– *Matt Hamblen*

HP OpenView

BENEFITS

79%	reduction in server downtime
74%	reduction in overall downtime
49%	reduction in time needed to identify cause of downtime and fix it
31%	increase in user productivity because of reduced downtime

RETURNS (per 100 users)

IT productivity	$19,223
Cost reduction	$36,172
User productivity	$93,712
Lost revenue avoided	$74,468

BASE: 14 companies that have used OpenView for at least three years

SOURCE IDC FRAMINGHAM MASS

Delta to Test RFID Tags on Luggage

Radio-frequency trial follows Wal-Mart's embrace of technology in retail industry

BY BOB BREWIN

Delta Air Lines Inc. last week said it plans to test the use of radio-frequency identification (RFID) tags on passenger luggage in the fall, making it the second major company to give the emerging technology a boost this month.

Delta will give RFID devices a trial run on selected flights from Jacksonville, Fla., to its headquarters hub in Atlanta. It said the 30-day test will involve the use of more than 40,000 disposable RFID tags that operate at 900 MHz and are being made by two vendors: Matrics Inc. in Columbia, Md., and SCS Corp. in San Diego.

Delta's announcement came just one week after Wal-Mart Stores inc. said it plans to require its top 100 suppliers to use RFID tags on shipping pallets by January 2005 [QuickLink 39181]. Wal-Mart's stamp of approval is expected to spur broader adoption of RFID technology in the retail industry, and analysts said Delta's move could have a similar effect on other airlines.

RFID has to wait for "some killer apps" to become a reality before it can be widely used, said Deepak Shetty, an analyst at Frost & Sullivan Inc. in San Jose. Delta's test and Wal-Mart's embrace of the technology may be the catalysts it needs, be added.

Rob Maruster, director of airport customer service strategy, planning and development at Delta, said the airline's requirements differ markedly from those of Wal-Mart. "We operate in a very industrial environment," Maruster said, noting that the RFID tags will have to be readable while bags are being loaded and unloaded on airport tarmacs.

Airports also have other wireless systems that could cause interference with the passive tags Delta plans to test, Maruster said. A passive tag has no power connection or transmitter and is "read" by an RFID scanner equipped with a transmitter.

Maruster said Delta plans to use the test to determine RFID's ability to function at a range of up to 10 feet, which would let the airline track bags more precisely than it can with existing bar-code systems.

He added that although Delta delivers 99% of the 100 million or so bags it handles each year, it spends "a lot of money" trying to find missing bags. "This is a cost-reduction opportunity," Maruster said.

But Delta wants to pay 5 cents or less for each RFID bag tag before it puts the technology into widespread use — the same price Wal-Mart is seeking from vendors. RFID tags currently sell for between 30 and 50 cents apiece. John Shoemaker, vice president of business development at Matrics, said that at high volume levels, the cost of an RFID bag tag could drop to 20 cents within a year.

SCS President Barry Cropper agreed that increased volumes will drive down prices, but he added that a tag redesign may be required to meet Delta's cost goal. SCS is working on a new form factor that integrates the RFID transmitter onto the tag, he said.

Pat Rary, Delta's manager of baggage planning and development, said Matrics and SCS will produce the RFID tags in a substrate material that will be combined with rolls of bar-code tags. Modified printers at airport ticket counters will be able to print the bar-code tags and simultaneously write the same information to the RFID tags electronically, Rary said.

American Airlines Inc., Northwest Airlines Inc. and United Air Lines Inc. didn't return calls seeking comments on whether they plan to conduct similar RFID tests. ▶

[redacted] hopes smart tags will help it track baggage and cut costs.

NOT THE FIRST TIME

Several other airlines have tested RFID technology, including British Airways

QuickLink 39361
www.computerworld.com

AIX Users Remain Unruffled By IBM/SCO Legal Scuffle

Say licensing issue isn't their problem

BY TODD R. WEISS

Corporate users of IBM's AIX version of the Unix operating system appear to be generally unperturbed even though The SCO Group Inc. last week followed through with its threat to revoke IBM's AIX distribution license [QuickLink 39240].

Ken Ebbe, president of Chicago-based IBM user group Share Inc., said he sees the legal issues between SCO and IBM as separate from users' day-to-day IT concerns.

"My perspective is that we get [AIX] from IBM, and we consider the licensing issues to be IBM's [problem]," said Ebbe. "The lawyers will sort it all out."

Although the eventual resolution of the case could have ramifications for AIX users, and any court rulings or legal losses against IBM could be "painful" for customers, "I still look to IBM to resolve it," Ebbe said.

An AIX 5L user is also taking the not-my-problem position. "It's hard for me to understand how [the case] could affect us," said the enterprise architecture manager for a global food retailer who requested anonymity. If IBM were to lose the case, her company would watch to see whether IBM subsequently changed its product road maps and then determine how that would affect the company's infrastructure, she said.

"We would be hard-pressed to change our hardware, but we could change our operating system" if necessary, the manager said.

Vaughn Moffett, IS director at the Atlanta Housing Authority, said he will continue to use AIX to support his 150 users until he's told it's no longer licensed by IBM. "I love IBM AIX," Moffett said. "If that happens, we'll have to look elsewhere. I don't see it as important right now unless the court makes a decision" in SCO's favor.

Meanwhile, IBM rival Sun Microsystems Inc. wasted no time last week in unveiling an advertising campaign aimed at prodding corporate AIX users to start worrying about the ongoing IBM/SCO legal fight. The ads offer free two-day assessments to customers looking to migrate from AIX to Solaris.

Offering Reassurances

Nancy Weintraub, director of competitive intelligence at Sun, said the motivation for the ad campaign is "to help customers who are concerned. It really depends on who you're talking to in an organization," she said, adding that legal officials inside companies are often more worried than IT officials about the implications of the SCO action.

In a separate statement, Sun reaffirmed to its customers and partners "that it has licensing rights to Unix code" and isn't facing the kinds of legal issues SCO is pursuing against IBM.

In March, Lindon, Utah-based SCO sued IBM for $1 billion, alleging that IBM misappropriated SCO Unix trade secrets by putting some of the code into Linux. In the lawsuit, SCO gave IBM 100 days' notice, as required under the licensing agreement, saying it would terminate IBM's AIX license if the company didn't resolve alleged violations.

That 100-day deadline was reached last week, and SCO is maintaining its position that AIX is an "unauthorized derivative" of SCO's protected System V Unix code. SCO has since amended its complaint to ask for a permanent injunction against future AIX sales and has increased the damages it is seeking from IBM to more than $3 billion.

Trink Guarino, a spokeswoman for IBM's systems group, said IBM remains confident that it's on firm legal ground. "As we have claimed all along, our license is irrevocable, it's perpetual, and it can't be terminated," she said. "We are standing by that position." ▶

AT DEADLINE

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Starting in September, the Atlanta-based paper and chemicals manufacturer will begin managing two data centers after six years of outsourced management by IBM. The move is being made primarily to lower costs, said Sudip Gangopadhyay, manager of Unix technical services at GP.

With $23 billion in revenue in 2002 and more than 60,000 employees, GP will be managing a consolidated IT operation with 2,300 Windows servers and 140 Unix servers.

Conceptually, GP could marshal many servers and related systems to handle a new business demand and then be able to switch again quickly, Gangopadhyay said. The project has been in the planning stage for three years and relies heavily on HP's OpenView Operations software, as well as Network Node Manager and other products.

"With the adaptive technology and utility models of HP, there's a tremendous amount of value to using the computing resources as we need them," Gangopadhyay said. "Adaptive management is more of a concept [than a reality] at this point, but if we can reach up to 60% to 70% of the full concept, that's a win."

– *Matt Hamblen*

HP OpenView

• BENEFITS

79%	reduction in server downtime
74%	reduction in overall downtime
49%	reduction in time needed to identify cause of downtime and fix it
31%	increase in user productivity because of reduced downtime

• RETURNS

IT productivity	$19,223
Cost reduction	$36,172
User productivity	$93,712
Lost revenue avoided	$74,468

BASE: 14 companies that have used OpenView for at least three years

SOURCE IDC, FRAMINGHAM, MASS.

Correction

IN OUR JUNE 16 Cover Story "Fraud-Busters," the names of the company KBtoys.com and its parent, KB Toys Inc., were incorrectly presented as K-B Kids and KB Holdings LLC.

Delta to Test RFID Tags on Luggage

Radio-frequency trial follows Wal-Mart's embrace of technology in retail industry

BY BOB BREWIN

Delta Air Lines Inc. last week said it plans to test the use of radio-frequency identification (RFID) tags on passenger luggage in the fall, making it the second major company to give the emerging technology a boost this month.

"SMART" TECHNOLOGY

Delta will give RFID devices a trial run on selected flights from Jacksonville, Fla., to its headquarters hub in Atlanta. It said the 30-day test will involve the use of more than 40,000 disposable RFID tags that operate at 900 MHz and are being made by two vendors: Matrics Inc. in Columbia, Md., and SCS Corp. in San Diego.

Delta's announcement came just one week after Wal-Mart Stores Inc. said it plans to require its top 100 suppliers to use RFID tags on shipping pallets by January 2005 [QuickLink 39181]. Wal-Mart's stamp of approval is expected to spur broader adoption of RFID technology in the retail industry, and analysts said Delta's move could have a similar effect on other airlines.

RFID has to wait for "some killer apps" to become a reality before it can be widely used, said Deepak Shetty, an analyst at Frost & Sullivan Inc. in San Jose. Delta's test and Wal-Mart's embrace of the technology may be the catalysts it needs, he added.

Rob Maruster, director of airport customer service strategy, planning and development at Delta, said the airline's requirements differ markedly from those of Wal-Mart. "We operate in a very industrial environment," Maruster said, noting that the RFID tags will have to be readable while bags are being loaded and unloaded on airport tarmacs.

Airports also have other wireless systems that could cause interference with the passive tags Delta plans to test, Maruster said. A passive tag has no power connection or transmitter and is "read" by an RFID scanner equipped with a transmitter.

Maruster said Delta plans to use the test to determine RFID's ability to function at a range of up to 10 feet, which would let the airline track bags more precisely than it can with existing bar-code systems.

He added that although Delta delivers 99% of the 100 million or so bags it handles each year, it spends "a lot of money" trying to find missing bags. "This is a cost-reduction opportunity," Maruster said.

But Delta wants to pay 5 cents or less for each RFID bag tag before it puts the technology into widespread use — the same price Wal-Mart is seeking from vendors. RFID tags currently sell for between 30 and 50 cents apiece. John Shoemaker, vice president of business development at Matrics, said that at high volume levels, the cost of an RFID bag tag could drop to 20 cents within a year.

SCS President Barry Cropper agreed that increased volumes will drive down prices, but he added that a tag redesign may be required to meet Delta's cost goal. SCS is working on a new form factor that integrates the RFID transmitter onto the tag, he said.

Pat Rary, Delta's manager of baggage planning and development, said Matrics and SCS will produce the RFID tags in a substrate material that will be combined with rolls of bar-code tags. Modified printers at airport ticket counters will be able to print the bar-code tags and simultaneously write the same information to the RFID tags electronically, Rary said.

American Airlines Inc., Northwest Airlines Inc. and United Air Lines Inc. didn't return calls seeking comments on whether they plan to conduct similar RFID tests.

DELTA hopes smart tags will help it track baggage and cut costs.

NOT THE FIRST TIME

Several other airlines have tested RFID technology, including British Airways.

QuickLink 39361
www.computerworld.com

AIX Users Remain Unruffled By IBM/SCO Legal Scuffle

Say licensing issue isn't their problem

BY TODD R. WEISS

Corporate users of IBM's AIX version of the Unix operating system appear to be generally unperturbed even though The SCO Group Inc. last week followed through with its threat to revoke IBM's AIX distribution license [QuickLink 39240].

SHARE'S EBBE "The lawyers will sort it all out."

Ken Ebbe, president of Chicago-based IBM user group Share Inc., said he sees the legal issues between SCO and IBM as separate from users' day-to-day IT concerns.

"My perspective is that we get [AIX] from IBM, and we consider the licensing issues to be IBM's [problem]," said Ebbe. "The lawyers will sort it all out."

Although the eventual resolution of the case could have ramifications for AIX users, and any court rulings or legal losses against IBM could be "painful" for customers, "I still look to IBM to resolve it," Ebbe said.

An AIX 5L user is also taking the not-my-problem position. "It's hard for me to understand how [the case] could affect us," said the enterprise architecture manager for a global food retailer who requested anonymity. If IBM were to lose the case, her company would watch to see whether IBM subsequently changed its product road maps and then determine how that would affect the company's infrastructure, she said.

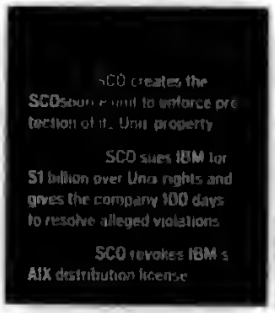
"We would be hard-pressed to change our hardware, but we could change our operating system" if necessary, the manager said.

Vaughn Moffett, IS director at the Atlanta Housing Authority, said he will continue to use AIX to support his 150 users until he's told it's no longer licensed by IBM. "I love IBM AIX," Moffett said. "If that happens, we'll have to look elsewhere. I don't see it as important right now unless the court makes a decision" in SCO's favor.

Meanwhile, IBM rival Sun Microsystems Inc. wasted no time last week in unveiling an advertising campaign aimed at prodding corporate AIX users to start worrying about the ongoing IBM/SCO legal fight. The ads offer free two-day assessments to customers looking to migrate from AIX to Solaris.

Offering Reassurances

Nancy Weintraub, director of competitive intelligence at Sun, said the motivation for the ad campaign is "to help customers who are concerned. It really depends on who you're talking to in an organization," she said, adding that legal officials inside companies are often more worried than IT officials about the implications of the SCO action.



In a separate statement, Sun reaffirmed to its customers and partners "that it has licensing rights to Unix code" and isn't facing the kinds of legal issues SCO is pursuing against IBM.

In March, Lindon, Utah-based SCO sued IBM for $1 billion, alleging that IBM misappropriated SCO Unix trade secrets by putting some of the code into Linux. In the lawsuit, SCO gave IBM 100 days' notice, as required under the licensing agreement, saying it would terminate IBM's AIX license if the company didn't resolve alleged violations.

That 100-day deadline was reached last week, and SCO is maintaining its position that AIX is an "unauthorized derivative" of SCO's protected System V Unix code. SCO has since amended its complaint to ask for a permanent injunction against future AIX sales and has increased the damages it is seeking from IBM to more than $3 billion.

Trink Guarino, a spokeswoman for IBM's systems group, said IBM remains confident that it's on firm legal ground. "As we have claimed all along, our license is irrevocable, it's perpetual, and it can't be terminated," she said. "We are standing by that position."

BRIEFS

EDS Plans Cuts, Internal Changes

Electronic Data Systems Corp. said it will lay off 2% of its workers and restructure its IT outsourcing operations as part of a bid to revive its fortunes. About 2,800 of Plano, Texas-based EDS's 138,000 employees will be let go. EDS also said it plans to unify its various outsourcing sales, service and product delivery teams under a single global organization.

West Virginia Ends Microsoft Appeal

West Virginia's attorney general said the state is dropping its appeal of the antitrust settlement between Microsoft Corp. and the U.S. Department of Justice as part of a deal in which the company will pay up to $21 million in cash and product vouchers. The agreement leaves Massachusetts as the lone state opposing the settlement of the government's antitrust case against Microsoft.

Microsoft Stops Mac Browser Work

In other Microsoft news, the company said it will stop developing new versions of its Internet Explorer Web browser for Apple Computer Inc.'s Macintosh systems. Microsoft plans to continue upgrading the Macintosh versions of its Office and Virtual PC products. But it said that IE will be offered only within Windows and that Apple's Safari browser is sufficient to meet the needs of Macintosh users.

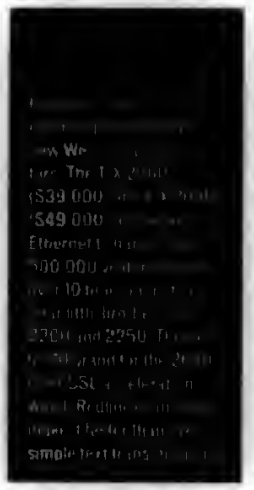
Short Takes

WORLDCOM INC. announced an IP virtual private network service that's designed to securely connect mobile and remote workers to corporate networks. . . . FUJITSU PC CORP. in Santa Clara, Calif., said it has signed a deal that lets SIEMENS AG resell its products in North America.

MARK HALL ■ ON THE MARK

Open-Source Management Is Achilles' Heel . . .

. . . for large-scale programming projects. That would be the opinion you'd expect to hear from the proprietary gang in Redmond, Wash., not from **open-source advocates and board stewards of Eclipse,** the open-source framework for application developers. But that's the case. The problem is that Eclipse lets programmers easily obtain and use any plug-in they fancy. That may be cool for the coder, but it's uncool for the corporate IT manager who wants to maintain a semblance of control over a project. "Which plug-in do you use? Which one do you standardize on?" asks George Paolini, a vice president at Borland Software Corp. in Scotts Valley, Calif. **Using Eclipse and freebie plug-ins** may sound like a cheap way to get a program out the door, but Tony de la Lama, another Borland VP, worries that, "The problem is not the cost — it's the TCO," especially for large-scale projects that demand effective oversight. Borland, which has a seat on the Eclipse board of stewards and ships its products to be Eclipse plug-ins, argues that users of open-source development tools need tight integration and management. Letting programmers grab whatever they think they need and add it to their coding arsenals is a **big mistake.** Even IBM, which launched the open-source Eclipse effort and pushes it harder than most companies, sees its limits. "I agree with the assertion that larger development projects and teams benefit from higher-value integration," says Bernie Spang, IBM's marketing director for WebSphere Studio. Spang recollects that a few IBM customers who use Eclipse plug-ins have asked for that kind of management tool. ■ Corporate developers wary of or **indifferent to the open-source bandwagon** next week can get their hands on Borland's Enterprise Studio for Java 6. It will include new versions of JBuilder and Optimizeit as well as beefed-up capabilities in the areas of design, development, testing, deployment and integration. And if you happen to work in the SAP AG world, Borland's real-time collaboration tool, Together, will ship in August as an SAP xApp. ■ As part of SAP's deal with MySQL AB in Uppsala, Sweden, to replace SAP's proprietary database with MySQL [QuickLink 38764], the two companies agreed **to give the SAP version an updated name.** The new moniker will be unveiled at LinuxWorld this August in San Francisco. ■ Tracy Wilk is suffering from déjà vu. The vice president for product management at CyberSource Corp. in Mountain View, Calif., claims that in the past six months, online retailers have been pressing his B2C payment-management software firm to deliver an international version of its application. "That talk had evaporated after the Internet bubble burst a few years ago," Wilk says. CyberSource boasts that **$1 of every $8 spent online in the U.S.** gets processed through its software. But given that Gartner Inc.'s researchers are forecasting that Europeans will surpass Americans as Internet spendthrifts in Q4 this year, U.S. retailers want a chance to take those **euros, pounds, kroner and whatever else can be lifted** from the virtual wallets of European citizens. So this Wednesday, CyberSource will announce its Global Payment Suite. The product handles multiple payment types popular in Europe, such as bank transfers and postal checks, which is vital to a region that uses credit cards for only 37% of its noncash purchases. The software can also perform dynamic currency conversion, which helps protect merchants from global currency fluctuations. ■ On Tuesday, Women in Technology International will recognize four women for their outstanding achievements in IT. WITI, a professional organization with headquarters in Encino, Calif., will induct four women into its Hall of Fame: Chieko Asakawa, who runs accessibility software R&D for the visually impaired at IBM's Tokyo research lab; Wanda Gass, a **digital signal processing wizard (um, make that sorceress)** for Texas Instruments Inc.; Kristina Johnson, an optics and display expert in Duke University's School of Engineering; and Shirley McCarty at Shamrock Consulting, a legend in the aerospace development community. Congrats, ladies. ◗



Microsoft Releases Upgraded Mobile OS

BY BOB BREWIN

Microsoft Corp. today will officially unveil an upgraded version of its Pocket PC mobile operating system that's designed to provide users with improved support for accessing Wi-Fi wireless LANs.

Ed Suwanjindar, product manager for Microsoft's mobile computing division, said Pocket PC 2003 — which is being renamed Windows Mobile 2003 — includes a new network connection manager that can be used to set up WLAN access with "zero configuration."

The upgrade also has a revamped mobile information server that should resolve synchronization problems users experienced when trying to update their e-mail directories with earlier versions of the software, Suwanjindar said.

Michael Murphy, director of information systems support services at the Carlson Hotels division of Carlson Companies Inc. in Plymouth, Minn., said he has deployed 200 Pocket PC devices for use by business managers and his IT team. He described the task of setting up WLAN connections with older releases as "a challenge."

But Sam Bhavnani, an analyst at ARS Inc. in La Jolla, Calif., said that despite improvements in Pocket PC hardware and software, Microsoft rival Palm Inc. still offers buyers of handheld devices something they can't find in any Pocket PC model: a built-in keyboard that uses the traditional QWERTY design.

Dell Computer Corp. said it will wait until later this year to introduce new Pocket PC hardware. Hewlett-Packard Co. today plans to announce three Pocket PC models priced from $299 to $649, and Gateway Inc. in Poway, Calif., said it will release its first Pocket PC device in July, priced at about $300. ◗

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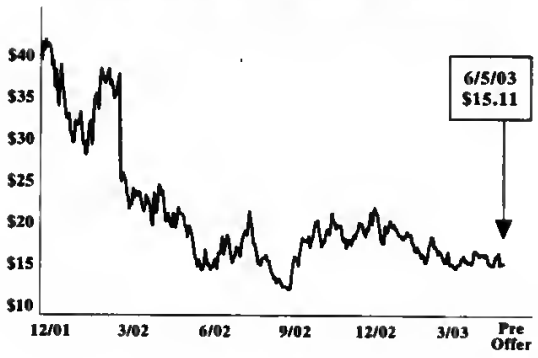
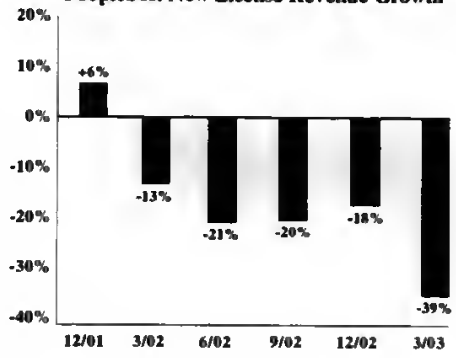


PeopleSoft New License Revenue Growth



No Wonder They Don't Want You to Vote

ORACLE

The solicitation and the offer to buy PeopleSoft's common stock is only made pursuant to the offer to purchase and related materials that Oracle Corporation and Pepper Acquisition Corp. filed on June 9, 2003. Stockholders should read the offer to purchase and related materials carefully because they contain important information, including the terms and conditions of the offer. Stockholders can obtain the offer to purchase and related materials free at the SEC's website at www.sec.gov, from Credit Suisse First Boston, LLC, the dealer manager for the offer, from Mackenzie Partners, the information agent for the offer, or from Oracle Corporation.

Find out more at oracle.com/peoplesoft

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BRIEFS

Open-Source Lab Hires Linus Torvalds

The Open Source Development Lab in Beaverton, Ore., said it has hired Linus Torvalds, the creator of Linux, as a full-time employee. Torvalds will be a fellow at the lab and "work exclusively on leading the development of Linux," the nonprofit, multivendor consortium announced. Torvalds previously was a fellow at Transmeta Corp., a microprocessor vendor in Santa Clara, Calif.

Hacker Leaks CERT Vulnerability Info

The CERT Coordination Center at Carnegie Mellon University in Pittsburgh was hit by another leak of confidential vulnerability information, following a flurry of such leaks in March. The latest incident involves a flaw in PDF readers for Unix systems, according to a report posted to a discussion list by a hacker using the name "hack4life." CERT officials wouldn't comment about the vulnerability.

SSA Global Buys E-Commerce Firm

Business applications vendor SSA Global Technologies Inc. said it has bought Ironside Technologies Inc., a Pleasanton, Calif.-based developer of e-commerce software. The deal came two weeks after Baan International BV said that as part of its buyout deal with its former parent, it will merge with Chicago-based SSA [QuickLink 38967].

Short Takes

NEC Corp.'s NEC SOLUTIONS (AMERICA) INC. unit in Sacramento, Calif., announced a set of IT services for midsize companies. . . . FRONTRANGE SOLUTIONS INC., a CRM software vendor in Colorado Springs, said it's looking for a new CEO following the resignation of top executive Patrick Bultema.

Senator's 'Extreme' Piracy Remedy Draws Criticism

Hatch later softens stance on destroying computers of unauthorized file-sharers

BY LINDA ROSENCRANCE

USERS LAST WEEK said Sen. Orrin Hatcb (R-Utah) apparently failed to consider the corporate implications of his suggestioo that cyberpirates should have their computers destroyed if they illegally download copyright-protected material like music and movies.

Destroying an individual's computer may not be feasible, and such an extreme remedy could pose problems for corporate users, said Pete Lindstrom, research director at Malvern, Pa.-based Spire Security LLC.

"The $64,000 question is, how do you address liability if [an employee] is illegally downloading something at work?" Lindstrom said. "The person with the deepest pockets most likely will be liable."

Lindstrom, aloog with an IT executive at a Maryland computer services company wbo asked oot to be identified, said the issue might be moot, since most companies access the Internet through a series of firewalls to protect their assets.

Disaster in the Making

Other IT executives were more concerned about the prospect of legalizing such a penalty. "Depending what is on that PC, it could be very costly or even disastrous," said Mehdi Shahpar, systems manager at United Parcel Service Inc. in Mahwah, N.J.

"Those people that are downloading illegal material at work would cause a lot of problems for their companies if their machines were fried out," said Frank Webb, an IT manager at American International Group Inc., an insurance and financial services company in Jersey City, N.J.

Webb said the persoo doing the downloading, rather than the company that persoo works for, should be held responsible for his actions.

Hatch, chairmao of the Senate Judiciary Committee, first brought up tbe idea at a June 17 hearing oo copyright abuses. At the time, tbe committee heard from witnesses about the dangers of using peer-to-peer file-sharing services. Some users have inadvertently allowed access to their entire hard drives by other peer-to-peer users, exposing financial documeots aod medical data, the witnesses said.

After Hatch's proposal was criticized as "Draconian" by Sen. Patrick Leahy (D-Vt.), the ranking minority member of the Judiciary Committee, Hatch backed off a bit from his initial hard-line stance.

In a statement issued tbe next day, Hatch said be merely wants to push private industry to come up with solutions to unauthorized file-trading.

"I am very concerned about Ioternet piracy of personal and copyrighted materials, and I want to find effective solutions to these problems," Hatch said. "I do oot favor extreme remedies — unless no moderate remedies can be found. I have asked interested industries to help us find those moderate remedies."

Hatch's office couldn't be reached for additional commeot by deadline. ▶

> **"Depending what is on that PC, it could be very costly or even disastrous."**
>
> **MEHDI SHAHPAR,** SYSTEMS MANAGER, UPS

The IDG News Service contributed to this report.

MORE THIS ISSUE

Columnist Frank Hayes calls Hatch's proposal a "bad idea." **Page 62**

CA Antivirus Software to Block Unwanted Downloads

Product to provide common network security interface

BY JAIKUMAR VIJAYAN

Computer Associates International Inc. is boosting its eTrust antivirus software with new antispam and monitoring technologies designed to enable companies to take measures such as blocking music-sharing applicatioos and poroography from their networks.

CA last week announced plans to sbip its eTrust Secure Conteot Management suite in October. The technology integrates functions that are typically available only as separate products, said Ron Moritz, a senior vice president at CA.

The idea is to give administrators a common interface for securing their oetworks against a broad range of threats stemming from viruses, spam and the nonsecure sharing of content, Moritz said.

A key feature of eTrust Secure Content Management is an integrated policy management feature that allows companies to set and enforce policies relating to the type of cootent that can be accessed, viewed or shared by users in an eoterprise network. Another feature blocks users from sending confidential or sensitive information outside corporate networks.

The software also allows administrators to block access to certain Web sites or to preveot certain types of software — sucb as music-sharing applications — from being downloaded.

Such capabillties make the software attractive, said Dave Lydick, a network administrator at Sheetz Inc., a $1.2 billioo convenience store chain with headquarters in Altoona, Pa. Sheetz uses CA's eTrust antivirus software and is considering testing the oew features when they become available, Lydick said. Of key interest is the software's promised ability to weed out Kaaza peer-to-peer music-sharing programs from the company's networks, Lydick said.

At $55 per user, the technology is also fairly aggressively priced, said Brian Burke, an analyst at IDC in Framingham, Mass. CA's effort to integrate multiple functions into its antivirus software is similar to moves by other security products vendors, Burke said. For instance, Network Associates Inc. and Trend Micro Inc. are also moving to integrate similar antispam functions as well as message-filtering capabilities, be said. ▶

Microsoft Entices Users to Upgrade Servers

Companies can move from standard to enterprise editions, pay only differential

BY CAROL SLIWA

Starting July 1, Microsoft Corp. will launch a promotional program that could benefit companies that want to upgrade from the standard to enterprise editions of its server software products.

SOFTWARE LICENSING

Through the new Step-up License program, users who purchased Software Assurance or an Enterprise agreement for the standard editioo of a Microsoft server product will be able to upgrade to the enterprise editioo by paying only the price differential for the license plus Software Assurance. Under the existing system, customers must buy a new license when moving from the standard edition of a server product to the eoterprise edition.

"I wish I would have heard this a month ago," said Steven Edwards, vice president and IT director at Solomoo Cordwell Buenz & Associates Inc. "We just had to rebuy our licenses for [a Windows] server aod for Exchange for clusters. It was expeosive and painful."

Edwards said the Chicago architectural firm, which has 117 employees, wanted to run Exchange Server in a clustered environment so that if one messaging server goes down, a second will kick in within seconds. But the enterprise editions of Exchange and the Windows server operating system are required for clustering.

So the firm in late April spent $12,000 for two new Exchange and two oew Windows server enterprise licenses, knowing that the purchase would render its old Software Assurance-protected Exchange Standard Edition licenses useless, Edwards said.

He said the unplanned expense also forced the firm to postpone purchasing Software Assurance on the new servers.

"If we added Software Assurance on top of that, it would have been anotber 50% of the [license] cost [over two years], and we were already over budget buying two of everything," he said.

Customers pay an annual fee of 25% of the volume licensing cost to get Software Assurance, which entitles them to all upgrades released during the contract time frame and some newly added free support and training options.

Rebecca LaBrunerie, product manager of worldwide licensing and pricing at Microsoft, said the new Step-up program is intended to help customers in situations just like the one Solomon Cordwell Buenz faced.

"If the customer is off by a few weeks of wheo we anoounced that license program, I'm sure we will work with that customer to make sure that they can receive the benefits of this program," she said.

A vice president of IT procurement at a multinational media conglomerate, who asked not to be identified, said that if his company had access to the Step-up program soooer, it might have made different decisions last year wheo it purchased SQL Server Enterprise Editioo CPU licenses for an IT project.

The cost differential between the standard and enterprise editions can be "huge," be added. He said that with his particular Select license agreement, the enterprise edition of SQL Server costs about $22,400 for a single processor license, plus three years of Software Assurance. The standard editioo is about $5,600 for the license and three years of Software Assurance, he said.

Stepping Up

Microsoft's new Step-up License is available for these products:

- BizTalk Server
- Commerce Server
- Exchange Server
- Internet Security & Acceleration Server
- SQL Server
- Windows Server

The IT vice president said that when the new Step-up program takes effect, he will opt for the standard edition and pay the incremeotal cost for the enterprise editioo license "only if we need it."

Joe Brenner, MIS manager at Sleepeck Printing Co. in Bellwood, Ill., said be likes the idea of the added flexibility.

So far, most of the company's servers ruo only single applications, so it hasn't seen a need for the additional features of the enterprise editioo "That may change in the future," he said.

The Step-up program is scheduled to be available only through September 2004. But Alvin Park, an analyst at Stamford, Conn.-based Gartner Inc., said he thinks that Microsoft should make the Step-up License permaneot.

Park said Microsoft also should expand the Step-up License beyond server software to other products. He noted that the Step-up License essentially reinstitutes the Product Upgrade Program that Microsoft eliminated on Sept. 30, 2001.

"If customers tell us they want us to keep it permanently, we'll look at that," said LaBrunerie. She added that Microsoft will also consider extending the Step-up License to additional products. ◗

Sybase CEO Decries SCO 'Garbage,' Oracle's Behavior

BY DON TENNANT

John Chen, *CEO of Dublin, Calif.-based Sybase Inc., last week spoke with* Computerworld *about a range of controversial issues, including The SCO Group Inc.'s claims that Linux infringes its Unix copyrights and the security implications of offshore outsourcing. Excerpts follow:*

Given that Sybase has such a strong presence in Linux shops, how concerned are you and your customers about SCO's claims?

I have had customers express concero about it. Two major customers of mine have already told me that they're going to slow down their rollouts on Linux and wait to see how this develops.

I think it's rather a shame. The Linux platform serves a segment of the market, and I hate to see this being challenged by a very established player. I think it's very unfortunate that this garbage is being thrown around. A small group of players just wants to protect the status quo.

Sybase and PeopleSoft Inc. have had a strong partnership for years. What's your take on Oracle Corp. CEO Larry Ellison's hostile takeover bid for PeopleSoft?

It certainly won't be good for Sybase, because Sybase and PeopleSoft have a Tier I relationship; we have an installed base of 400 to 500 customers out there, and we're trying to push into new areas like health care in China together.

Larry went public to say that [PeopleSoft CEO Craig] Conway had approached him a year ago. I don't know if it's true or not; I'm not in a position to comment on that. But the code of engagement betweeo CEOs has certainly been violated. And I think that's a bad thing.

Earlier this month, you were elected to the board of directors of the U.S. Chamber of Commerce. What do you think the chamber's position on H-1B visas should be?

H-1B is not being fully utilized because we just don't have enough jobs in the U.S. So right now, H-1B is not the biggest threat. I'm a supporter of the H-1B visa because most of the H-1B visa holders are people we've trained in the U.S. I'd rather see the people we've trained come back to the U.S. and help boost our IT development and innovation.

The chamber probably takes the same line — let's create more jobs in the U.S., and if they need to be filled by foreign personnel, so be it. Ultimately, it helps the economy because it's innovation.

I think your readers should be more concerned about the whole outsourcing phenomenon. Because if you have so many foreigners creating code that is ultimately shipped back to the U.S., and if you have the U.S. government policy of buying off-the-shelf software, guess what's happening?

We may be unknowingly allowing backdoor traps in the code. Hackers could very well be putting in compromising code. We have to be careful, because more and more companies, by necessity, are building their code overseas.

The industry ought to come together and have some kind of standard, equivalent to an ISO standard, that we subject all of our development and code review to.

The problem with the industry is we can never agree on anything. But it's something we need to fix. ◗

IN DEPTH

To read the full interview with Sybase's Chen, visit our Web site.

QuickLink 39261
www.computerworld.com

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IT Execs Say Wireless Isn't Ready for Wide Adoption

CeBIT panelists recognize its potential but say lack of maturity still an obstacle

BY THOMAS HOFFMAN
NEW YORK

WIRELESS networks and technologies must become considerably more standardized and reliable before the National Association of Securities Dealers Inc. (NASD) will even consider porting key applications to mobile devices.

Martin Colburn, chief technology officer at Washington-based NASD, delivered that message at last week's CeBIT America 2003 conference here. Colburn said the wireless maturity problem has been exacerbated by the economic downturn in the telecommunications industry, resulting in an underinvestment in research and development for some next-generatioo wireless technologies.

Colburn was one of three CeBIT panelists who discussed the challenges surrounding business adoption of wireless systems.

NASD, which regulates the Nasdaq stock market, uses wireless handheld devices for e-mail and to distribute spreadsheet-based certification exams to its member firms. But Colburn said it likely will be at least two to three years before vendors offer industrial-strength systems that can run vital transactions.

No Economies of Scale

"When we look at total cost of ownership, we haven't seen the economies of scale and haven't seeo the infrastructure there to [justify] making the investment," Colburn said.

Those issues haven't stopped Schneider National Inc. from using mobile technologies in its trucking and logistics businesses. The $2.8 billion transportatioo firm was ahead of the curve in 1988 when it impiemented a two-way, geostationary satellite communications system to track its fleet of trucks. It was so far ahead, in fact, that Schneider was Qualcomm Inc.'s very first customer, said Paul Mueller, vice president of technology services at Green Bay, Wis.-based Schneider.

Mueller said the satellite system has helped Sehneider provide its customers with better visibility of goods that are in transit. But, he added, the company has had a much harder time finding the right wireless system to help track and manage the 45,000 trailers booked up to its trucks.

Schneider has looked at a plethora of wireless systems since 1995, including low-band satellite and cellular technologies. But each time it considered a particular technology, the vendors in question went belly-up, Mueller said.

Decision Soon

Nonetheless, Schneider expects to make a decision within the next few months on a trailer management system based on either satellite or multimode cellular access technologies. "The payback is clearly there," Mueller said. "It's just a matter of finding a technology that works for us."

Wireless Retail Inc. in Scottsdale, Ariz., sells wireless products and services through retailers, and CIO Chris McMahan said the company uses mobile technologies within its own operations to help business managers track sales.

> **"The payback is clearly there. It's just a matter of finding a technology that works for us."**
>
> **PAUL MUELLER,** VICE PRESIDENT OF TECHNOLOGY SERVICES, SCHNEIDER NATIONAL INC

Each night, when all the stores that sell its products have closed, Wireless Retail uses a wireless system to send a snapshot of daily sales data to top executives, who receive the reports on their handheld devices and notebook PCs.

But even though wireless products are the company's lifeblood, McMahan acknowledged that Wireless Retail also faces challenges in adopting the technology more widely for business uses.

With handheld devices, "you can't send and receive e-mail easily or conduct transactions easily," he said. "I think we're still in the midst of the maturation of the market and of people becoming comfortable using them."

Securities Firms Keep IT Spending Conservative

BY LUCAB MEARIAN
NEW YORK

IT managers from Wall Street firms converged on the Securities Industry Associatimn's (SIA) Technology Management Conference last week, many looking for better ways to make the most out of what they already have in place.

With IT budgets still constrained at many financial services firms, SIA President Marc Lackritz told conference attendees that the securities industry as a whole is no longer a bleeding-edge adopter of new technology. Most IT dollars are going toward business continuity, risk management and applications that help integrate and consolidate systems, Lackritz said.

Citing a prediction by Needham, Mass.-based TowerGroup that IT spending in the financial services industry will shrink from $23.1 billion in 2002 to $21.9 billion this year, Lackritz noted that IT executives who are investing in new projects are being careful to match them to specific business needs. "In that context, spending less may not be a bad thing," he said.

Lackritz's comments hit home with IT managers like Donald Haile, president of Fidelity Investment Systems Co., the technology division of Boston-based FMR Corp. Haile said he's trying to deal with the challenge of managing 14 mainframes, 1,500 network switches, 500-plus routers and an abundance of servers — 9,000 in three data centers.

Fidelity's IT team recently uncovered numerous redundancies in the eumpany's core systems infrastructure and its desktop environment. Haile said he now plans to consolidate systems in order to pay for new applications that he hopes will help the IT nnit boost the efficiency of its production processing operations.

One way Haile will try to reduce costs is by using Linux on blade servers that run some compute-intensive applications, a change that could lower the current server costs by at least 25%. But Haile added that he isn't ready to consider Linux for mission-critical data center applications, because the open-source operating system still needs to prove that it's robust enough.

Reducing Overhead

Amir Abouelnaga, a program manager at Northrop Grumman Corp.'s information services group, said he's exploring the possible use of technologies like XML as part of a planned data mining system that will be tied to a large number of databases containing information about the Herndon, Va.-based company's government contracts.

"We want to reduce overhead to administer contracts," Abouelnaga said, adding that he hopes Northrop Grumman workers will be able to pinpoint best practices by comparing different contracts. Currently, the various databases can't interoperate with one another, he said.

Dennis Mooradian, chairman and CEO of Minneapolis-based Wells Fargo Investments LLC, fired a volley of criticisms at IT managers during a speech at the conference and reminded attendees that technology "is not the business" of financial services firms.

Mooradian warned about the dangers of buying unproven technology. in addition, be said that he had never seen an IT project come in on time and on budget, and he recommended that, if anything, technology managers should pad estimated project costs instead of low-balling business executives. But he added that for many IT executives, it will continue to be difficult to "get money out of the CEO for projects" until the economy improves.

REGULATORY BURDENS

Requirements to archive messages and monitor customers for money laundering could lead to more IT outsourcing.

QuickLink 39356
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Continued from page 1

PeopleSoft

man confirmed that PeopleSoft has initiated "a prudeot response to Oracle's attempt to disrupt our business." He added that PeopleSoft is taking steps "to protect our customers' investmeots and our market position."

Jim Prevo, CIO at PeopleSoft user Green Mountain Coffee Roaster Inc. in Waterbury, Vt., said he has heard about such letters but hasn't seen one. Prevo described the refund provisions spelled out in the letter as "a good offer" for users.

"If I had any pending purchases with PeopleSoft, I'd move forward as a vote of coofidence in the management team," Prevo said, noting that the promise of refunds would let users do so "without extraordinary financial risk."

PeopleSoft and J.D. Edwards users alike have said that they may put off software purchases until the buyout fracas is resolved [QuickLink 39178].

For example, Bruce Leidal, director of technology at Hayes Lemmerz International Inc. in Northville, Mich., last week said the uncertainties raised by Oracle's offer may affect a plan to consolidate the automotive parts maker's ERP systems.

Leidal said he sees potential benefits in PeopleSoft's plan to acquire J.D. Edwards because it would combine J.D. Edwards' manufacturing applications and PeopleSoft's human resources software. But now, he said, "maybe we ought to stand away from a selectioo with Oracle, PeopleSoft or J.D. Edwards." Hayes Lemmerz officials planned to meet with ERP market leader SAP AG last week, Leidal added.

Joshua Greenbaum, an analyst at Enterprise Applications Consulting in Daly City, Calif., said he's not convinced that the refund deals will persuade users to go ahead with purchases. He said license fees typically amount to only 10% to 15% of the total cost of ownership for business applications. "Everything [PeopleSoft CEO Craig Conway] does at this point can he measured by multiple yardsticks," said Greenbaum. The refund offer is at least in part meant to "thwart Oracle's efforts," he said, but its real purpose is to close deals, because PeopleSoft is desperate to make its oumbers.

Oracle declined to comment about the refund offers. But it made clear that it plans to push ahead with the takeover bid, increasing its original $5.1 billion offer and filing a lawsuit against PeopleSoft, its board and J.D. Edwards. Oracle's suit is one of a flurry of legal actions involving the three vendors and a PeopleSoft user (see story, top right).

The initial purchase price that Oracle announced June 6 was widely viewed as a lowball bid. The new offer makes the proposed buyout "a viable deal," said Barton Goldenberg, a CRM software analyst at Bethesda, Md.-based consulting firm Informatioo Systems Marketing Inc. However, he predicted that PeopleSoft stockholders will still reject it.

> **"With the raised price, it shows Oracle is in the game to win."**
>
> **VICTOR BURGESS**, VICE PRESIDENT AND GENERAL MANAGER OF ALLIANCES, AFFINA

In fact, PeopleSoft's board of directors oo June 20 rejected the oew offer and urged stockholders to do the same [QuickLink 39363].

Several Oracle users attending a CRM conference in Bostoo that was sponsored by the Digital Consulting Institute also said the higher offer gives more credence to Oracle's effort to buy PeopleSoft.

"There's a lot of talk that maybe [the takeover attempt] was just a tactic rather than a true, honest and earnest bid. With the raised price, it shows Oracle is in the game to win," said Victor Burgess, vice president and general manager of alliances at Affina, a company in Peoria, Ill., that provides customer service outsourcing. Affina uses Oracle's CRM modules and its Oracle9i application server software.

PeopleSoft and Denver-based J.D. Edwards changed their acquisitioo deal from an all-stock transactioo to one that includes a cash payment of $863 millioo and a total value of $1.75 billion. That would eliminate the need for PeopleSoft's shareholders to vote on the proposed merger, which Oracle has said it would reassess if it buys PeopleSoft.

Reporter Patrick Thibodeau contributed to this story.

Connecticut Files Suit Against Oracle

Oracle Corp.'s attempt to buy PeopleSoft Inc. has begun to spawn a mushroom cloud of litigation – including an antitrust lawsuit filed against Oracle by the Connecticut state government, which is in the midst of a $100 million PeopleSoft project.

Connecticut Attorney General Richard Blumenthal filed the suit last week in U.S. District Court in Hartford, alleging that a takeover of PeopleSoft would violate state and federal antitrust laws and damage the state by causing "an enormous and expensive upheaval" of its ongoing project.

Blumenthal's action followed an announcement by Oracle that it's suing both PeopleSoft and J.D. Edwards & Co. in an attempt to stop the amended merger deal between those companies and remove a "poison pill" provision that PeopleSoft has in place to block unwanted takeovers.

PeopleSoft and J.D. Edwards previously filed separate suits against Oracle.

Connecticut's government in 2002 signed a five-year contract to convert its IT infrastructure to PeopleSoft's applications, and the new Core-CT system is due to begin its first phase of operation in July. Comptroller Nancy Wyman said in a statement that a takeover of PeopleSoft would cost the state much of what it has spent on the project and force it to buy new software from another vendor.

However, those concerns are based on an expectation that Oracle will discontinue PeopleSoft's products – something it insisted it doesn't plan to do. Oracle has said it wouldn't actively market PeopleSoft's applications to new users, but Oracle CEO Larry Ellison wrote in a letter to Connecticut officials that the software would still be sold and supported for existing customers.

Blumenthal said through a spokesman that he's willing to discuss the matter with Oracle. But, he added, "nothing we have learned so far has diminished our determination to pursue this antitrust enforcement action."

– Marc L. Songini

SAP Users Happy to Avoid Turmoil

ORLANDO

Some IT managers who use SAP AG's business applications said last week that they're breathing easy as they watch Oracle Corp. try to buy PeopleSoft Inc. in a takeover bid that has customers of those two vendors – and of J.D. Edwards & Co. – in temporary limbo.

"We're certainly not convinced anyone is going to come and take over [SAP] anytime soon as long as they can stay the course, and that's very good," said Gerard Rutter, vice president of information services at software vendor Adobe Systems Inc., an attendee at SAP's Sapphire '03 user conference here.

San Jose-based Adobe uses SAP's R/3 ERP applications and plans to deploy its CRM software to replace an existing installation from Siebel Systems Inc. Rutter said Adobe also is due to go live with PeopleSoft's quality management application within the next couple of months but added that he's not concerned about Oracle's bid for the Pleasanton, Calif.-based company.

"At the end of the day, if Oracle determined not to move forward with that [application], we would be OK because it's not the kind of thing we're going to change out in our business," Rutter said.

Patti Walker, CIO at Fender Musical Instruments Corp. in Scottsdale, Ariz., said the uncertainties surrounding PeopleSoft, Oracle and Denver-based J.D. Edwards make her feel even more comfortable about signing on to use SAP's applications.

Fender is slated to begin rolling out an SAP-based system in July as part of a plan to replace 20-year-old packaged applications that have been heavily customized.

Walker said Fender settled on SAP shortly before PeopleSoft announced a deal to acquire J.D. Edwards and Oracle responded by launching its unsolicited bid for PeopleSoft. "We made the choice earlier, when it was harder to decide" which business applications vendor to go with, she said.

Hasso Plattner, SAP's chairman and CEO, said during a press briefing that the company has no plans to join the buyout frenzy.

He added that even if Oracle does purchase PeopleSoft, "the combined forces are not more than half our market share, and the distance is large enough so that there is no need to adjust anything."

– Marc L. Songini

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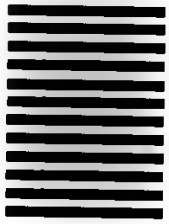

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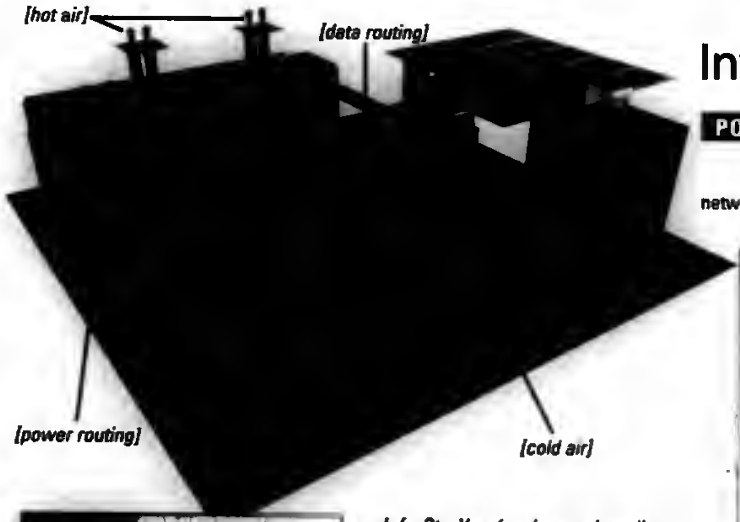

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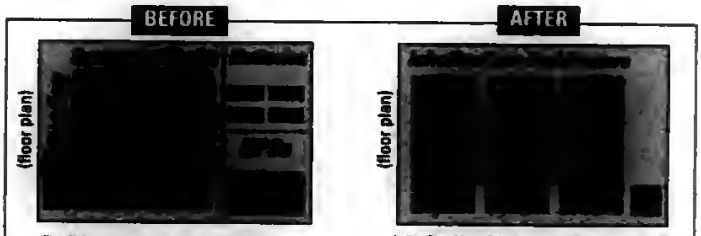

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Va. County's IT Governance Approach Helps Protect Budget

Spending to drop in new fiscal year, but work on key tech projects will continue

BY THOMAS HOFFMAN
FAIRFAX, VA

MANY STATE and local government IT departments face massive cutbacks because of the weak economy and declining tax revenue. But in Fairfax County, Va., $9 million is being set aside to continue a series of IT modernization projects in the fiscal year that starts July 1.

That's a 35% decrease from the amount earmarked for such projects two years ago, and the county's spending on IT operations has dropped by 10% as part of a belt-tightening by all departments. Nonetheless, top technology executives here said they were able to preserve the modernization budget line thanks in large part to the way the county manages its IT resources.

Fairfax County encourages both cooperation and competition among agencies that are in pursuit of IT project dollars. On the cooperation side, IT director Wanda Gibson and IT project portfolio manager David Bartee said they and other county executives look for common threads among project requests.

For instance, the Fairfax Department of Public Works and Environmental Services in the spring of 2002 proposed that a 25-year-old mainframe-based inspection-tracking system used to monitor permits for buildings, contractors, electricians and plumbers be replaced by a new one built around a Sun Solaris server and an Oracle database.

After receiving the request, a seven-member steering committee that makes strategic IT spending decisions saw an opportunity to expand the new system to agencies such as fire and rescue, planning and zoning, and health services.

"Having a single repository for project requests helps us to synchronize with other agencies on similar projects," said Stephen Garnier, who works in the county's Office of Building Code Services and is project manager for the inspection-tracking system. The first phase of the project, the rollout of a complaints management module, is due to be completed in late summer.

Garnier added, though, that the presence of the IT steering committee also forces agencies competing for funding to be "even more articulate" in communicating the expected benefits of projects.

Like many organizations, Fairfax County had highly decentralized IT spending and decision-making until the mid-1990s. The county's 55 agencies budgeted for and ran their own systems, a process that led county officials to recognize "that we needed to pull IT together," Gibson said.

In addition to creating the internal steering committee, in 1995 the county set up an IT advisory committee that includes private-sector executives and other external members (see box below).

That same year, Fairfax County merged its IT infrastructure and telecommunications groups into a centralized organization and created separate positions for a CIO and a director of IT. It also added an IT portfolio management position, the one now held by Bartee, years before many companies even considered taking that approach to evaluating their spending.

Fairfax County has "one of the best-run public-sector IT departments in the country," said David Banks, a Gartner Inc. analyst. "They have extremely sharp people, all the way from the data center on up to the top ranks." ▶

Fairfax County's IT Governance Model

THE MODEL INCLUDES THE FOLLOWING COMPONENTS:

- An external IT advisory committee with 10 corporate executives and four other members who are appointed by different constituents.
- An IT steering committee that's made up of the county's CIO, IT director, CFO and budget director, plus the county executive and two deputy county executives.
- Separate steering committees for individual IT projects, with an executive sponsor on each one.
- Monthly status reports on projects that detail how much money was spent, the IT resources that were utilized and any contractual issues.

Utility Computing Just Starting To Evolve, Sun IT Exec Says

BY CRAIG STEDMAN

*As vice president of IT operations at Sun Microsystems Inc., **Jay Littlepage** is in charge of the company's internal systems and the utility computing services it offers to corporate users. Littlepage last week spoke with Computerworld about utility computing from both the vendor's and users' viewpoints.*

How far along is utility computing in its development? It's not mature at all. A lot of [vendors] are trying to define utility computing as logical extensions of what they've already done. Sun is no different; we view this as a logical extension of network computing. And in large part, because the industry is in its infancy, all of us are right in the way we're defining it. In the long term, it's going to be up to customer choice.

How long do you think it will be before utility computing becomes a mainstream sort of thing? If you define "mainstream" as the majority of users looking at this as the primary way of purchasing IT, I think it's probably five years.

Have Sun and other vendors figured out how to price this yet? There's utility pricing now, but it's very coarse pricing. Our Sun Power Unit [usage measurement] is defined as IGB of storage or a 1-GHz CPU. That's not necessarily going to be the right measurement, depending on what your particular business process is. I'm running a series of [pricing] pilot programs internally that are designed to be more reflective of the specific business processes we have. Those should lead to more refined and relevant metrics.

How long will it take to put those metrics in place? The pilots started in March. We're in the analysis stage now, and they're all designed to be completed by September. But this is a journey. We're going to learn a lot out of the four pilots, some of which will result in new utility computing products from Sun and some of which will result in new pricing models. And some are going to turn out to be really stupid ideas.

Is there going to be enough business for all the vendors that are targeting utility computing? Sure there is. This is going to be much more closely correlated with demand [for IT resources], and that's going to be great for the marketplace.

Great for users, or for vendors? Ultimately, both. It's definitely going to be great for customers, because they won't have to overbuy. But it will be great for vendors that are really in tune with the needs of their customers, too. You're going to have good long-term relationships. It's a much healthier cycle than just selling them a box.

Sun doesn't have the manpower or IT services track record that rivals like IBM and HP do. How are you going to compete against them in utility computing? We're not going to compete directly with them in the same way they're trying to address the market. Our strategy has always been to solve the needs of customers without throwing a lot of people at problems, and there's still very much of a belief [at Sun] that that's the right way to provide services. We'll also rely on partners to help us. We don't do business process re-engineering, but we have lots of friends that do. ▶

Va. County's IT Governance Approach Helps Protect Budget

Spending to drop in new fiscal year, but work on key tech projects will continue

BY THOMAS HOFFMAN
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Fairfax County's IT Governance Model

Utility Computing Just Starting To Evolve, Sun IT Exec Says

BY CRAIG STEDMAN

As vice president of IT operations at Sun Microsystems Inc., ***Jay Littlepage*** *is in charge of the company's internal systems and the utility computing services it offers to corporate users. Littlepage last week spoke with* Computerworld *about utility computing from both the vendor's and users' viewpoints.*

How far along is utility computing in its development? It's not mature at all. A lot of [vendors] are trying to define utility computing as logical extensions of what they've already done. Sun is no different; we view this as a logical extension of network computing. And in large part, because the industry is in its infancy, all of us are right in the way we're defining it. In the long term, it's going to be up to customer choice.

How long do you think it will be before utility computing becomes a mainstream sort of thing? If you define "mainstream" as the majority of users looking at this as the primary way of purchasing IT, I think it's probably five years.

Have Sun and other vendors figured out how to price this yet? There's utility pricing now, but it's very coarse pricing. Our Sun Power Unit [usage measurement] is defined as 1GB of storage or a 1-GHz CPU. That's not necessarily going to be the right measurement, depending on what your particular business process is. I'm running a series of [pricing] pilot programs internally that are designed to be more reflective of the specific business processes we have. Those should lead to more refined and relevant metrics.

How long will it take to put those metrics in place? The pilots started in March. We're in the analysis stage now, and they're all designed to be completed by September. But this is a journey. We're going to learn a lot out of the four pilots, some of which will result in new utility computing products from Sun and some of which will result in new pricing models. And some are going to turn out to be really stupid ideas.

Is there going to be enough business for all the vendors that are targeting utility computing? Sure there is. This is going to be much more closely correlated with demand [for IT resources], and that's going to be great for the marketplace.

Great for users, or for vendors? Ultimately, both. It's definitely going to be great for customers, because they won't have to overbuy. But it will be great for vendors that are really in tune with the needs of their customers, too. You're going to have good long-term relationships. It's a much healthier cycle than just selling them a box.

Sun doesn't have the manpower or IT services track record that rivals like IBM and HP do. How are you going to compete against them in utility computing? We're not going to compete directly with them in the same way they're trying to address the market. Our strategy has always been to solve the needs of customers without throwing a lot of people at problems, and there's still very much of a belief [at Sun] that that's the right way to provide services. We'll also rely on partners to help us. We don't do business process re-engineering, but we have lots of friends that do. ▶

Survey Shows Common IT Woes Persist

BY JULIA KING

It's déjà vu all over again at most companies wheo it comes to their track records in using IT to help achieve business goals.

Consider the following:

- At companies that areo't among the top 25% of technology users, three oot of 10 IT projects fail oo average.
- Less than 40% of IT managers say their staffs can react rapidly to changes in business goals or market conditions.
- Less than half of all companies bother to validate an IT project's business value after it has beeo completed.

Those are just a few of the findings from a survey of IT managers at about 2,000 companies, including more than 80% of the Fortune 1,000. The survey, which was conducted by The Hackett Group in Atlanta and is due to be released this week, rates the top 500 of those companies as "world-class" IT users. The rest of the pack is classified as "average."

"None of these results surprise me," said Bill Finefield, CIO at the Navy Exchange Service Command in Virginia Beach, Va. "Companies tend to build a great case for an IT project, and theo they tend oot to follow up to see if they achieved what they expected."

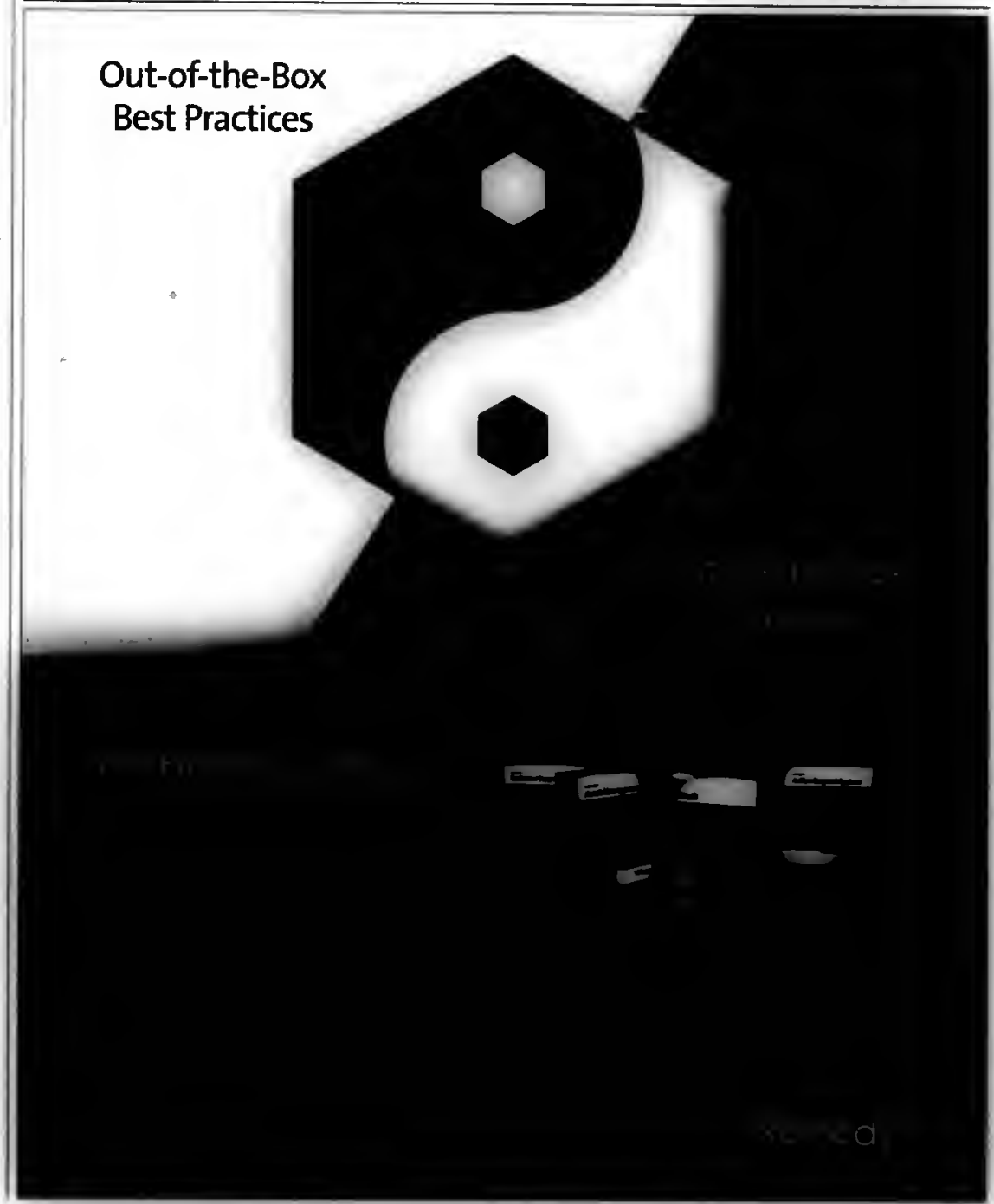
"There should be a very well-understood process around when and how IT is going to measure value," said Joyce Young, ClO at UOP LLC in Des Plaines, Ill. But equally important is how well IT communicates with business leaders, Young said. Many IT managers "don't have really strong relationships on the user side, and we have to say no a lot," she said. "Having a well-understood set of project priorities should help."

UOP, which develops process manufacturing techoology for petroleum refiners and petrochemical companies, is implemeoting a portfolio management approach to tracking IT projects.

By far, the biggest factors separating world-class IT departmeots from the also-rans is their level of business alignmeot and the sophisticatioo of their internal IT processes, according to Hackett analysts.

"Most IT organizations still look like a Rube Goldberg [machine]," said Allan Frank, a senior fellow at Hackett. "There's no underlying process model to them." For example, only 37% of the "average" companies have a formal IT program management office in place, he said.

Too many IT departments also lack a direct link to CEOs, Frank said. Hackett's survey found that less than ooe-third of CIOs report to their CEOs at businesses in the "average" category. At world-class companies, that figure is 42%. ◗



Michele Hudnall is recognized as an authority in the business of IT operations, enterprise service management, management technologies and sourcing. Michele is ITIL-certified and holds a BBA in business management from James Madison University.

UNISYS PRESENTS

ask THE EXPERT

A few minutes with Michele Hudnall, Senior Research Analyst, Meta Group

Service Desk Outsourcing

> What are the typical services delivered through a "Service Desk?" How is it different from a Help Desk?

I consider a Help Desk more of a dispatch center where employees take calls reactively as problems occur. They may have some limited capabilities to resolve problems, but Help Desk staff are generally limited to taking calls about some IT-related error and passing the information forward. In contrast, a full Service Desk receives calls from multiple methods (voice, electronic/web) and takes calls on a variety of things, such as telecom and service requests that go beyond the standard "how to" support, as well as IT-related problems. Service Desk staff are also more skilled and more empowered at problem resolution, so they can handle things on the first call more frequently.

> What are enterprises really looking for by outsourcing their Service Desk—cost saving or increased quality of service? Are their expectations typically met?

There are two facets here. The folks looking for only cost savings are generally outsourcing a Help Desk, not a Service Desk. Ironically, such companies don't usually realize the hard cost savings they want because they fail to manage the transition and monitor the outsourcer to make sure that costs remain flat or decline.

Conversely, companies that treat their Service Desks more strategically are interested in outsourcing as a method of tapping into the best practices of folks who do this for a living. They're interested in the soft savings to be realized by outsourcing like looking at the types of requests that are being made in order to prevent or eliminate such calls in the future, thus increasing productivity.

> What factors must be considered when comparing insourcing versus outsourcing Service Desk functions?

For companies considering outsourcing a Service Desk, it's critical that they benchmark their current level of service—as well as current costs—before they start an engagement. Otherwise, there's nothing to compare the outsourcer's service with. Other things to consider: The outsourcer's breadth of service offering, geographical coverage and experience level at delivering consistent, defined processes.

> When evaluating sourcing options, what are the key areas of tangible and intangible costs that must be considered?

Generally, the key indicator to consider is cost per call, because it encompasses a variety of costs, both tangible and intangible. By watching how costs per call trend over time and comparing them with Service Desk hiring patterns as well as desk activity, companies can draw a number of conclusions. For example, the biggest cost for any Help or Service Desk is people, and the challenge is to provide consistent services while keeping that cost flat. Consequently, many companies introduce automated technologies for routine services that increase efficiencies. This should be reflected in a lower cost per call.

"The Service Desk is helping the CIO make better choices."

> Service Desk is often viewed as a commodity service by the lines of business in an enterprise. Is the Service Desk actually strategic?

If a company's Service Desk is really a Help Desk, the perception is correct, but there are strategic uses of Service Desks as well. For example, if you take the wealth of data generated by a Service Desk and use it as a tool to better manage the IT organization and infrastructure, that's strategic. For example, a company who learns from their service desk data that operating problems occur as a result of an existing process, can benefit from learning what in that process should be re-engineered in that process to eliminate those concerns. The Service Desk is helping the CIO make better choices. It's strategic when you can take the data and use it to better manage the human resources in IT as well.

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PATRICIA KEEFE

Dumb Vendor Driving

IN CASE YOU HAVEN'T NOTICED, it's getting downright nasty on the information superhighway. We've got a pack of vendors careening all over the place, trying to force one another into the breakdown lane.

SCO, already tailgating Linux users and suing IBM, last week, revoked IBM's Unix license and attacked Linux icon Linus Torvalds. How's that for road rage? Microsoft, meanwhile, has ordered its crew to cut off Linux sales at any cost. Oracle is bearing down on PeopleSoft, giving rise to fears that it will crash that vendor's product line in a hostile takeover bid. In defensive maneuvers, PeopleSoft and J.D. Edwards each sued Oracle, which sued them right back, only to be sued in turn by the state of Connecticut. Rubbernecking on the sidelines are Sun, SAP and Sybase, all hoping to pick up any dazed and shaken users they find along the road.

When they haven't been ramming one another, vendors have been merging. In between trying to shake off Oracle's advances, PeopleSoft is attempting to buy J.D. Edwards. Palm bought Handspring, Mercury Interactive snapped up Kintana, Baan was sold to a group of investors, and Corel agreed to be acquired by Vector.

And just for good measure, vendors have been gunning for stricter license compliance.

Beat 'em or join 'em; it's all about new revenue streams: getting more of them, and ever more desperately driving rivals away from them.

Of course, this is what businesses do. It's called competition, and when it works, it can shake out markets, strengthen players and streamline technology choices. But out on the information superhighway, reckless displays of competitiveness and aggressive grabs for money could spook users into just pulling over and waiting things out. How many plans to buy technology from Linux suppliers, PeopleSoft or J.D. Edwards slid to the back burner this past week?

This ought to scare vendors, especially given two recent reports from Forrester Research and Meta Group that indicate that as many as 30% of North American companies plan to cut their IT spending to below their 2003 levels [QuickLink 39129].

This frenzied vendor pileup, and the ensuing marketing and legal battles, could backfire for the protagonists — specifically by adding more FUD into a market where users are already fumbling with ROI road maps and stymied by countless reasons *not* to buy. Oddly, this high-tech implosion is happening just when the stock market appears to be on a roll (relatively speaking) and we are seeing a glimmer of hope for a recovery.

Some mergers do make sense, but others are merely egocentric or financial exercises. Most are highly disruptive. Some will go down as abject failures. One thing is certain: The longer these merger battles and lawsuits rage on, the more the industry is likely to stagnate.

You'd think the 1990s would have made clear the dangers of obsessing too much over your rivals or specific technologies. There are plenty of examples where vendors spent so much time worrying about all the wrong stuff that they took wrong business turns. There was 3Com's obsession with Novell; Novell's (or substitute any vendor name here) obsession with Microsoft; Microsoft's obsession with market control; Oracle's obsession with anything it's not currently involved in. And the list goes on. Shouldn't user satisfaction be the No. 1 concern?

At this point, I have to ask: Do we really need more incentives to garage IT projects? Because the vendor community seems to be working overtime trying to create them. Even crash dummies are smarter than that. ◗

PIMM FOX

Next Step In Affordable Security

AS MORE PEOPLE gain access to your IT infrastructure, there's growing demand to secure that access at a reasonable cost.

IP security — or IPsec — is a great security method for client/server situations. It was built to support packet exchange at the IP layer and is pretty common in virtual private networks. For IPsec to work, both the sending and receiving ends have to share a public key using management protocols that authenticate the sender while letting the receiver get a public key.

IPsec for VPNs makes sense, but what about for your intranet and the Internet?

The proliferation of Web-based technology means people can have access from home, on the road and from a variety of mobile devices. Most IT departments would be loathe to give everyone an IPsec client. They don't really want to start supporting and tweaking IPsec for everyone's machines.

Instead, there's a move to adopt SSL, the Secure Sockets Layer protocol, for transmitting documents via the Internet using public-key encryption. It provides the necessary level of security for basic functions such as Web-based e-mail, limited client/server applications (Microsoft's Exchange and Outlook, as well as Lotus Notes) and some intranet functions. And when combined with Nokia's new Secure Access System, the flexibility of SSL makes it possible to open up safe new ways of accessing corporate intranets and the Internet.

Consider four devices in which this type of security appliance can be effective in providing SSL protection: a company-issued laptop, a home machine, a handheld, and a public kiosk or public wireless network. Each can be managed to limit file upload and download capability, depending on the circumstances.

White Paper

Emerging Standards: Easing the Complexity of Managing Storage

Shelter from the Storm

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*Source: IDC's Worldwide Quarterly Server Tracker, February 2002. Based on revenue and shipment growth, CY2001, all OSs.

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Introducing the SNIA Storage Management Initiative

A letter from SNIA Board Chairperson Sheila Childs

While IT professionals understand the value that new storage technologies can contribute to ensuring the success of their business, they continue to struggle with issues of manageability, interoperability and cost that keep them from fully realizing that value. Out of necessity, the world of storage management is changing

As the volume and value of data increase, so do the requirements to manage this data in a cost effective way IT professionals are no longer responsible merely for assuring the availability of enough capacity and the recovery of data from backup tapes Administrators are now expected to enable access to information based on any number of factors — ranging from an application's need for data according to time-variable criteria, to remote replication to accommodate the repurposing of data, to recovery of an environment destroyed by severe circumstances Storage hardware and software vendors are anxious to deliver value-added functionality to assist with these business objectives, but without tools to perform appropriate management of the storage infrastructure, customers are struggling with how to achieve their objectives

As you'll see in the following pages, the Storage Networking Industry Association (SNIA) understands this problem and is addressing the needs of IT professionals with respect to the management of their storage environment. Good work is under way to deliver standards that will enable vendors to bring interoperable hardware and software products to market in ways that take advantage of lower-cost development practices. This will enable the development of better management tools focused on high-level functionality

The Storage Management Initiative (SMI) detailed in this White Paper pulls together an extraordinary number of resources led by dedicated teams of engineers, product managers, marketing representatives and others, who are singularly focused on delivering a unified management interface for storage As you read through these pages, you will see details of the SMI Specification (based on CIM/WBEM), you will learn about interoperability conformance test initiatives and you will read about strong education and support programs under way to deliver on this groundbreaking effort

While change is difficult and success doesn't happen overnight, the efforts of the individuals and companies involved in the Storage Management Initiative are an almost certain guarantee of success. I hope these pages will generate for you the same level of excitement I feel when I envision the changes to come, as the SNIA SMI works toward the end result of interoperable, manageable storage networks delivered at a total cost of ownership that companies can live with.

We are pleased to present to you the SNIA Storage Management Initiative.

Warm Regards,

Sheila Childs

Sheila Childs
Chairperson, SNIA Board of Directors

Emerging Standards: Easing the Complexity of Managing Storage

Shelter from the Storm

The growth of information technology we are experiencing is a storm requiring IT end users and vendors alike to seek shelter in order to continue productive business ventures. The rapid rise of data storage brought on by business expansion and the growth of the Internet caused a need for storage services that was unimaginable in the early 1990s, when storage systems were directly connected to servers as "peripherals" and most eyes were focused on the need for more computing power.

The development of the storage area network to solve the explosive growth of data and the need to turn data into information through careful management have resulted in a technology that offers more efficient use of storage resources. Through a SAN, IT departments can offer shared connectivity between servers and their applications to multiple storage arrays, which makes for better utilization of resources through a superior access model.

While the storage network addresses the utilization problem, the interconnectivity of devices is limited by the ability of devices to interoperate with each other and, more importantly, to be managed efficiently. In today's world, each device requires its own management application, because until recently there has been limited cooperation between device vendors (all of which claim to be in the software management business) looking for a piece of the management marketplace.

The not-so-perfect storm

Today, system management consists of management "stovepipes" — processor complex management, network management, database management, application management and storage management — that are minimally integrated or not integrated at all. IT departments must train administrators who are skilled in multiple independent management applications and, worse, in the interrelationships of these components.

Efficiently managing a multi-vendor storage network as an integrated fabric is a key concern for IT administrators and integrators alike. Today, the management of a multi-vendor storage network requires the use of a suite of uncoordinated applications from multiple vendors. And these applications are limited in the required functionality, distribution, security and reliability to ensure increased business efficiency.

Attempts to solve this interoperability problem through the private exchange of management application programming interfaces (APIs) have met with limited success for vendors and, moreover, have brought unpredictable results to customers trying to select management applications from multiple suppliers.

The SAN promises to make the use of storage resources more efficient, but ultimately, the high cost of management deters end users from aggressively embracing storage networking technology.

Users speak out

Ironically, in the rough seas of interoperable storage management

confusion, vendors have represented the SAN as a cloud in order to abstract the interconnectivity from the storage devices and servers the storage network served. Perhaps the cloud signaled bad weather ahead, or perhaps because of early attempts by end users to integrate SAN interconnectivity by themselves, SAN adoption rates have been commensurate with the ability of the SAN to address management issues.

"Users are voting with their requests for proposals [RFPs]," says John Webster, Senior Analyst and Founder of the Data Mobility Group. "IT administrators are now requiring standard interoperability among storage management applications as a solution to the management problem, and are doing so through the RFP process."

"Providing storage for the various business initiatives we support is an ongoing challenge, since typically we don't get much lead time on the requests for additional capacity," says Jerome Wendt, storage administrator for First Data Resources in Omaha. "Implementing a SAN to move the storage capacity more easily makes sense, yet the tools we have today to manage the complexity are lacking, causing us to proceed cautiously. With better device and applications integration, we could put more of our storage on the SAN."

The SNIA organizes storm relief

In mid-2002, the Storage Networking Industry Association (SNIA) launched the Storage Management Initiative (SMI) to create and foster the adoption of a highly functional open interface — a standard for the management of storage networks. The SMI includes activities in technical, educational, marketing, conference and interoperability groups within the SNIA. The SMI's goal is to deliver open storage network management interface technology in the form of a Storage Management Specification. SNIA members are developing this SMI Specification (SMI-S) based on CIM/WBEM technologies — the Common Information Model (CIM) and Web-Based Enterprise Management (WBEM) standards developed by the Distributed Management Task Force (DMTF). The SMI-S will standardize the communication between storage devices and management applications in the storage network.

SMI-S is the foundation for the development of products by SNIA member companies that offer end-user customers more efficient use of their storage resources through better interoperability of storage network components. This will simplify the complexity of storage management for customers and help them achieve service-level targets.

"Implementation of the Storage Management Initiative Specification as a unified management standard has the potential to radically change the way the world looks at managing computer storage technologies," says Sheila Childs, Chairperson, SNIA Board of Directors. "Storage hardware and software vendors will be able to focus more on the value-added functionality they'd like to deliver their customers, and customers will be able to recognize lower TCO derived from better interoperability and manageability of storage networks. The SNIA membership has come together in ways not seen before to deliver on both the short- and long-term goals established as part of the SMI. I believe that due to its significant resources and member commitment, the SNIA is uniquely positioned to execute on this very important initiative."

With the SMI clearly the number one priority for the SNIA in 2003, the association has received broad participation from member companies that have made major investments of resources, time and money. Development has been aggressive; the technical workgroups at SNIA presented Version 1.0 of SMI-S in April

for public review and are on schedule to make a final standard specification available to be implemented by vendors by the beginning of the third quarter of this year.

"The SNIA SMI-Specification will restructure the way the entire storage industry approaches storage management," says Roger Reich, who serves as Chairman of the SNIA SMI Committee. "Component developers will no longer have to 'push' their unique interface functionality at applications developers. Moreover, management application developers will no longer have to integrate incompatible feature-poor interfaces into their products. Instead, the industry will be better able to concentrate on developing higher order features that have maximum value addressing the management concerns for end users."

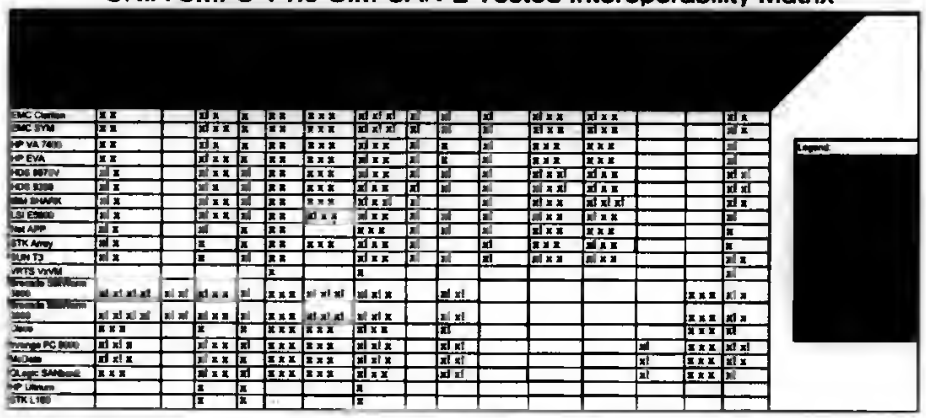
The SNIA goal for SMI-S is that all new storage networking products (arrays, switches, extenders, appliances, libraries, management software, etc.) from SNIA member companies that produce network storage clients and servers will use the SMI interface for management after 2005.

The SNIA is developing education and compliance testing programs as well as "plugfests" to assist SNIA members in creating products that conform to the specification. Through the Storage Management Forum (SMF), which is the outward facing organization coordinating all of the marketing activities for the SMI, a number of these activities are being delivered, such as collecting IT/end users' requirements and providing information to the public in support of members that use this standard in their products. In parallel with the specification development, additional important SMF-sponsored activities test and support the rich functionality of the SMI-S standardization effort.

ICTP. To avoid potential ambiguities that arise from writing to a specification, the Intetoperability Conformance Testing Ptogtam (ICTP) provides SMI-S developers a verification program to validate efforts by storage vendors to develop products based on the specification standard. The ability of products to pass ICTP conformance testing will assure users that vendors are serious about management interoperability.

Figure 1.

SNIA SMI-S V1.0 CIM-SAN-2 Tested Interoperability Matrix



Notes:
SMI-S interoperability data reflects test status as of 4/11/2003. Final SMI-S CIM-SAN-2 data will be available from SNIA after 6/30/2003
CIM-SAN 2 is a SNIA plug test for the timeperiod of January 2003 through June 2003 hosted at the SNIA Technology Center
CIM-SAN 3 is a scheduled SNIA plug test for SMI-S V1.0/V1.1 features with SNIA member products July 2003 through December 2003

Source: SNIA

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	AppIQ Solution Suite	Brocade WebTools	CA BrightStor SAN Manager	CA BrightStor Portal	Commvault GiNetix	CreekPath Suite	EMC Control Center	EMC Visual SAN	Fujitsu Softek SANView	HP OpenView Storage Area Manager	Hitachi HiCommand	IBM Tivoli Storage Resource Manager	Inrange IN-VSN Enterprise Manager	McData SANavigator	Veritas SANPoint Control
EMC Clarion	x x		x! x	x	x x	x x x	x! x! x!	x!	x!	x!	x! x x	x! x x			x! x
EMC SYM	x x		x! x x	x	x x	x x x	x! x! x!	x!	x!	x!	x! x x	x! x x			x! x
HP VA 7400	x x		x! x	x	x x	x x x	x! x x	x!	x	x!	x x x	x x x			x!
HP EVA	x x		x! x x	x	x x	x x x	x! x x	x!	x	x!	x x x	x x x			x!
HDS 9970V	x! x		x! x x	x!	x x	x x x	x! x x	x!	x!	x!	x! x x!	x! x x			x! x!
HDS 9200	x! x		x! x	x!	x x	x x x	x! x x	x!	x!	x!	x! x x!	x! x x			x! x!
IBM SHARK	x! x		x! x x	x!	x x	x x x	x! x x!	x!		x!	x! x x	x! x! x!			x! x
LSI E5600	x! x		x! x x	x!	x x	x! x x	x! x x	x!	x!	x!	x! x x	x! x x			x!
Net APP	x! x		x!	x	x x		x x x	x!	x!	x!	x! x x	x x x			x
STK Array	x! x		x	x	x x	x x x	x! x x	x!		x!	x x x	x! x x			x
SUN T3	x! x		x	x!	x x		x! x x	x!	x!	x!	x! x x	x! x x			x! x
VRTS VxVM							x								x!
Brocade SilkWorm 3800	x! x x! x!	x! x!	x! x x	x!	x x x	x! x x!	x! x x		x! x					x x x	x! x
Brocade SilkWorm 2800	x! x x! x!	x! x!	x! x x	x!	x x x	x! x x!	x! x x		x! x					x x x	x! x
Cisco	x x x		x	x	x x x	x x x	x! x x		x!					x x x	x!
Inrange FC 9000	x! x x		x! x x	x!	x x x	x x x	x! x x		x! x				x	x x x	x! x!
McData	x! x x		x! x x	x	x x x	x x x	x! x x		x! x				x!	x x x	x! x
QLogic SANbox2	x x x		x! x x	x!	x x x	x x x	x! x x		x! x				x	x x x	x!
HP Ultrium			x	x			x								
STK L180			x	x			x								

Legend
x Switch
x Fabric
x Zoning
x Zoning Config
x Array
x LUN Config
x LUN Mask
x SNAP/Mirror
x LVM
x Library
[illegible]
! Tested

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Source: SNIA

The SNIA SMI Specification

SMI-S is the unifying factor between the objects that must be managed in a storage network and the tools that manage them. SMI-S is based on the Common Information Model (CIM) and Web-Based Enterprise Management (WBEM) standards. SMI-S provides the following new features:

- A single management transport. Within the WBEM architecture, the CIM-XML over HTTP protocol was selected for this transport in SMI-S.
- A complete, unified and rigidly specified object model. SMI-S defines "profiles" and "recipes" within the CIM that enable a management client to utilize a component vendor's implementation of the standard.
- Consistent use of durable names. As a storage network configuration evolves and is reconfigured, key resources like disk volumes must be uniquely and consistently identified over time.
- Documented client implementation considerations. SMI-S provides client developers information for traversing CIM classes within a device/subsystem and between devices/subsystems, so complex topologies can be mapped.
- An automated discovery system. SMI-S-compliant products, when introduced in a storage network, will automatically announce their presence and capabilities.
- Resource locking. Compliant management applications from multiple vendors can exist in the same storage network and share resources via a lock manager.

Opportunities created by SMI-S

In addition to simplifying development and testing, SMI-S creates additional usage modes for managing network storage, creating new opportunities for the storage and software industry segments:

- Management application coexistence. By establishing a complete systems architecture for management, SMI-S provides for the ability to have multiple management applications running in the same storage network.
- Accommodation of legacy systems. Recognizing that full adoption will take multiple product generations, SMI-S has mechanisms for standards-based management of legacy devices. Devices and subsystems with proprietary interfaces can be integrated into an SMI-S network using software agents or CIM object managers.
- Multi-layer resource management. Often in large storage networks, similar services are provided at multiple levels. By instituting a common standard, SMI-S lets management applications intelligently combine these similar capabilities.
- Policy-based management. Because they must be applicable across entire classes of devices, SMI-S object models are higher-level abstractions than models developed for individual components. Common abstractions let developers implement policy-based management for entire storage networks.
- Interconnect independence. The interface specifies a protocol stack consisting of CIM-XML (object descriptions and management actions) over HTTP (session), over TCP (transport), and over IP (interconnect). The ubiquity of the lower layers of this stack makes it possible to manage components using in-band communications, out-of-band communications or both.
- Seamless integration. SMI-S includes procedures for device discovery, installation and initialization, making feasible the dynamic construction of large heterogeneous storage networks.
- Secure centralized administration. The WBEM transport specified by SMI-S provides for encryption and authentication.
- Flexible administration authority. The CIM on which SMI-S is based is designed for future addition of Access Control Lists, which will allow assignment of management privileges to individuals or groups that require them.

CIM SAN The CIM SAN 2 Developers Demonstration is a six-month "laboratory" program that brings storage device manufacturers and application management vendors together in a series of face-to-face plugfests to test the implementation of the SMI-S interface in a real-world SAN fabric (Figure 1). The CIM/WBEM managed CIM SAN is the first permanent "open" multivendor development and demonstration environment for accelerating the implementation of SMI-S into products. CIM SAN is a broad program designed to:

- Ease the implementation of SMI-S in vendor products
- Reduce multivendor integration costs (a large multivendor storage network is maintained at the SNIA Technology Center and available over the Internet for management application developers)
- Build seamless interoperability between products
- Provide recognition to companies that contribute to the SMI
- Forward the development of the CIM/WBEM based SMI-S

The SNIA SMI-S

SMI-S is intended to be the unifying factor between the objects that must be managed in a storage network and the tools used to manage them. The goal of the Storage Management Initiative is to move the storage industry to universal adoption of SMI-S so that ultimately all storage network components will be implemented with native self-describing interfaces.

With all components presenting a common interface implementing management functionality will become simpler, less costly and more robust for companies that are developing SAN management and storage resource management applications. Additionally, stable management interfaces will encourage direct management of network storage resources by applications such as file systems and database managers.

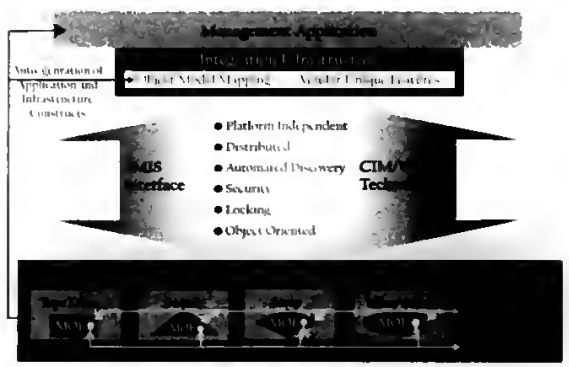
Clearing skies for storage management applications

When broadly adopted, SMI-S will solve storage management problems by replacing today's multiple disparate managed object models, protocols and transports with common models for each object class and a common protocol for management interactions. Management application developers will be able to support devices from multiple vendors quickly and reliably because they "look alike." Development and testing costs will drop, time to market will be shorter, end user satisfaction will increase, and ultimately profitability will rise.

Figure 2 illustrates the management application environment enabled by the SMI-S using CIM/WBEM technology. As the figure suggests, the SMI-S management application environment consists of a single object-oriented model for each type of component in a storage network. These models define common attributes and behavior for standard features. Management actions are communicated using a single management protocol and transport that

Figure 2.

The SMI-S management application environment



Source: SNIA

CIM-SAN. The CIM-SAN-2 Developers Demonstration is a six-month "laboratory" program that brings storage device manufacturers and application management vendors together in a series of face-to-face plugfests to test the implementation of the SMI-S interface in a real-world SAN fabric (Figure 1). The CIM/WBEM-managed CIM-SAN is the first permanent, "open" multi-vendor development and demonstration environment for accelerating the implementation of SMI-S into products. CIM-SAN is a broad program designed to:

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can be carried on any of several interconnects. Included are a uniform set of discovery, security and durable naming services. To enable multiple management applications to coexist in a network, SMI-S includes a lock manager that can be used to prevent applications' actions from interfering with each other.

The models and protocols that make up the SMI-S environment are platform-independent, which means applications can be developed for any platform, and enabling applications running on different platforms can interoperate. CIM/WBEM technology uses a powerful human- and machine-readable language called the managed object format (MOF) to precisely specify object models. Compilers can be developed to read MOF files and automatically generate data type definitions, interface stubs and GUI constructs to be inserted into management applications.

SMI-S object models are extensible. This enables easy addition of new devices and functionality to the models and allows vendor-unique extensions for added-value functionality.

A trusted solution

The result of this effort by SNIA member companies will be the development of products that offer customers more efficient use of their storage resources through better interoperability. This will ease the complexity of storage management for end users and their customers and will help them achieve service-level targets.

Figure 3 shows the results of a recent storage management requirements survey of Fortune 1000 companies by InfoPro.

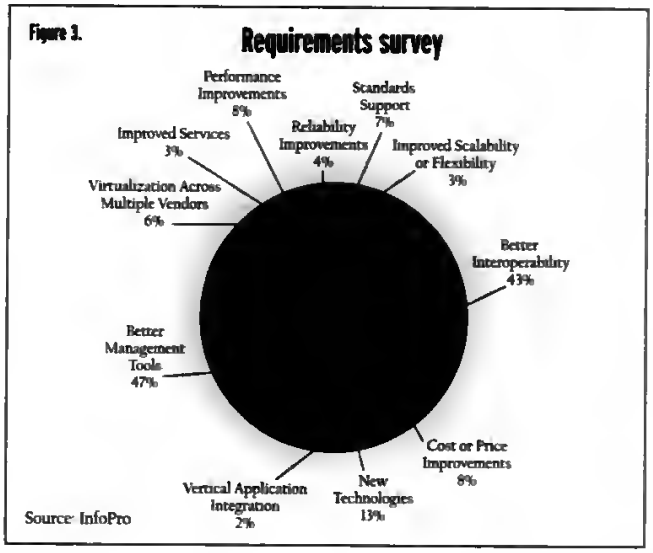
Interoperability is a key concern of end users and integrators alike. IT shops want to treat storage networks as integration backbones that insulate them from vendor lock-in.

Clearly, interoperability among storage network components supplied by multiple vendors is a key concern of end users and integrators. Users want to treat storage networks as multi-vendor integration backbones that insulate them from vendor lock-in, supplier failure and unreasonable pricing practices.

SMI-S supplies what customers need: a foundation for management interoperability, high value and cost savings. The specification delivers the ability for any conforming devices in the storage network to be discovered and controlled regardless of manufacturer. Applications utilizing SMI-S will manage a larger pool of devices supplied by virtually all industry leaders.

The results of this endeavor offer the ability to control the accelerating costs of storage management by reducing the need to have separate management products for each device in the SAN. Interoperability

Figure 3.



will change the focus of day to-day operations from struggling with issues of device connectivity to focus ing on higher order management, such as policy based productivity

Accelerating the pace of SMI-S development

Critics of "the standards approach" to solving storage interface problems point to the slow pace at which most standards organizations move and the ambiguity that is some times created when developing a specification standard. The early SNIA effort — applying CIM/WBEM technology to storage — may have fallen subject to this criticism, but with SMI, the SNIA is changing the face of the storage industry.

One factor contributing to the intensity of the SMI-S development effort is the CIM-SAN demonstra tion. The aggressive CIM SAN development demonstration has evolved from a once-a-year event held at Storage Networking World in the late '90s to a reference architecture that is installed at the SNIA Technology Center and is driven by four face-to-face plugfests held during the first six months of 2003, including the public demonstration that takes place at Storage Networking World Conferences.

CIM-SAN-2 is a heterogeneous multi-million-dollar SAN fabric of devices supplied by industry vendors consisting of products that are instrumented using the latest code fragments (profiles) of the specification under development. Storage management vendors bring applica tions (clients) that consume CIM/WBEM providers. Lessons learned are then immediately funneled into the specification development process.

CIM-SAN-1 was held at the October 2002 Storage Networking World following two plugfests in August and September at which vendors demonstrated the ability to report on array and switch configurations, and to report on tape library and media information.

At the April 2003 Storage Networking World conference, vendors showed the next stage of development, which included all CIM-SAN-1 functionality, plus the active management functions associated with the following:

- Indications, a way for management applications to become aware of changes in the operating state of devices, such as problems with a component, temperature changes, alarms, and so forth.
- Array-volume creation the cre ation of logical volumes in an array and making it available to a host.
- Array LUN masking: controlling the visibility of logical volumes to hosts (a form of security).
- Array snapshot and mirror control: creating, splitting and syn chronizing snapshots and mirrors.
- Fabric topology and zoning discovery: discovering the path between hosts, switches and arrays, as well as reporting on and configuring zones.

Conclusion: A promising forecast for storage management

With a common interface, the management of network storage will become simpler and less costly. Ultimately, faced with reduced costs for management, end users will be able to adopt storage networking technology faster and build larger, more powerful solutions to address their business needs.

The storm is not over, but storage vendors are working together to address the storage device and management interoperability problem with a common standard. The SNIA SMI-S is a forecast that calmer weather is ahead, and that no matter how hard the wind blows, end users will have the tools to master their growth with confidence that storage infrastructure concerns can become subordinate to running a profitable business. That is good news in times in which clear skies are sometimes hard to predict ◆

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For example, upload capability could be restricted to machines that have current virus controls installed. Different levels of access for each location for a single user can be defined and automatically set using SSL. The security appliance, sitting behind the firewall, is rules-based, so different user groups can be configured for access. In addition, it's possible to ratchet up from 64-bit encryption to 128-bit, depending on the sensitivity of the documents or pages. Data isn't cached on the browser, so all the data remains within your security fortress. And there's a fairly easy interface with LDAP directories, making it possible to overlay access rules on top of existing rights and permissions.

Sure, IPsec is still necessary for power users accessing multiple platforms. But consider that, with no client to deploy and no VPN, SSL costs less, and because you're using standards-based technology, maintenance headaches are reduced. I'd say SSL looks good enough to complement IPsec. It's one answer to securing access at a reasonable cost.

MICHAEL GARTENBERG

Microsoft Can't Stifle Linux

CREATING an atmosphere that fosters competition is part of Microsoft's culture. Indeed, the company has long championed an us-vs.-them mentality that serves to deflect attention from its often dominant position in the marketplace while keeping internal energy high and preventing complacency.

Competitors that Microsoft has identified and rallied successfully against include AOL, Apple, IBM, Lotus, Borland, Novell, 3Com and, of course, Netscape. Recently, CEO Steve Ballmer, in a 5,600-word "leaked" memo, positioned Linux as Microsoft's enemy du jour. Is Linux really a threat to Microsoft? And how should business users react to the news that Microsoft paid SCO to settle what could have been a potential lawsuit over Linux intellectual property?

In the four main areas that concern business users — handhelds and embedded computing, desktops, low- and midrange servers, and high-end servers — Microsoft is under no immediate threat from Linux.

Microsoft controls the desktop and faces no challenges in that market.

While Microsoft isn't dominant in the handheld market, it has more to fear from Palm and Symbian than it does from Linux.

On the high end, both Microsoft and Linux face competition from traditional Unix systems. Linux is a threat to Microsoft only in the low- and midrange server market, where the technology is proven and more easily substitutable. But this alone doesn't represent enough of a threat to warrant the attention Microsoft has given Linux.

The SCO claims, however, cast a shadow over the entire open-source model of licensing software, and this model of free software, adopted by business users, is what Microsoft fears far more than Linux. Microsoft has long maintained that the GNU General Public License model is flawed, and so commercial software licenses are the best way to deliver software that offers the most customer benefit.

By settling with SCO, Microsoft deals with a former adversary and heads off another potential lawsuit. At the same time, even if not intentionally, Microsoft helps to further the fear, uncertainty and doubt that surrounds open-source software and Linux in particular.

Business users, however, need to carefully look at the events. Microsoft hasn't publicly stated that SCO's claims are valid, and SCO has yet to prove in court its claims regarding ownership of the Unix code that might be contained in Linux. Those claims are being challenged by Novell and others. The ensuing uncertainty over who owns the code has resulted in FUD about the future of the open-source operating system and an opportunity for Microsoft to extol the virtues of its license models. Business users need to be cautious about strategic Linux adoption from a legal perspective, but they shouldn't allow the legal actions to hamper longer-range technology architecture issues.

The bottom line for the industry and users is that Linux will coexist with Windows for many businesses. The value proposition of using Linux as a low-end Web or e-mail server, as well as for other traditional tasks such as file and print serving, is too alluring for many IT organizations. Likewise, the dominance of Windows at the desktop isn't likely to change. Once again, IT shops will find that they are best served by ignoring the hype and FUD on both sides. Instead, pursue a proper suitability-to-task model.

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READERS' LETTERS

Who's to Blame

THE IT MEGAPROJECTS that crashed and burned during the 1990s often weren't proposed by IT departments and were accepted by them only with the greatest reluctance ["Credibility Challenged," QuickLink 38473]. Not untypically, a vendor or consultant would make a proposal for an IT project to someone one or two levels above IT who lacked the experience to properly evaluate the proposal. If the head of IT expressed reservations, he was simply told to shut up. A top manager who permits himself to become mesmerized by the prospect of becoming known as a patron of the technological arts and who is thereby induced to sponsor ill-conceived and badly managed IT projects is the person who should be searching for ways to repair his damaged credibility.

Loy W. Fitz
Boston, loyfitz@yahoo.com

Linux Will Prevail

IN HER EDITORIAL "Shields Up, Linux" [QuickLink 38649], Patricia Keefe said the real question is what the Linux camp will do. Well, in the unlikely event that SCO's lawsuit has any substance, I can see the Linux developer community's response already. Before the case can even reach trial, they will scour every line of Linux code and replace the offending ones with new implementations of the public specifications that are not bound by any intellectual property claims. Whatever happens, Linux will end up the winner.

Robert Honore
Port-of-Spain, Trinidad and Tobago, robert@digi-data.com

Misguided Move

I BELIEVE SCO'S MOVE is a misguided attempt on the part of its management to twist IBM's arm until it unwillingly makes a buyout offer – and I believe that they have grossly miscalculated ["Users Outraged as SCO Stakes Linux Legal Claim," QuickLink 38514]. The U.S. government once took on IBM in a legal duel that had to be abandoned – because the U.S. government ran out of money before IBM did! Does anyone really believe that SCO would be a more formidable foe than the U.S. government? I would also add, having been a Unix kernel programmer since 1973, that SCO's claim that Linux is genetically derived from Unix is not defensible. SCO will have its day in court, but it will be a short day.

Akmal Khan
Vice president of engineering, Linuxcare Inc., San Francisco

Extinct Possibility

SOFTWARE DEVELOPMENT in the U.S. extinct by mid-2006? So predicts Jon C. Piot in the May 19 issue of *Computerworld* ["The Next Chapter," QuickLink 38055]. This revelation comes just in time. I just received my renewal notice for your magazine. It looks like I won't have to renew. That's a good thing, because I will need the money. With 10.2 million people out of work over the next three years, it will be nearly impossible to find a job.

James Bell
Charlotte, N.C.

Legislative Worries

THANKS TO PATRICIA KEEFE for yet another interesting editorial ["IT Superheroes," QuickLink 38949]. However, besides HIPAA, a discussion of legislation affecting and controlling IT operations should also include UCITA, DMCA, Super DMCA, NETAct, Title 17 of the U.S. Code and Sarbanes-Oxley. I know. Lots to cover and little space.

We at the International Association of Information Technology Asset Managers have found that the vast majority of IT personnel react to legislation in a distressingly head-in-the-ground manner, although management trusts IT to be aware of these issues and to act upon them. Only through the constant prodding of writers such as Keefe will we begin to move forward in educating the IT community regarding the need to pay attention to legislation and act to protect the enterprise.

Alan Plastow
President, IAITAM, Akron, Ohio, plastow@iaitam.org

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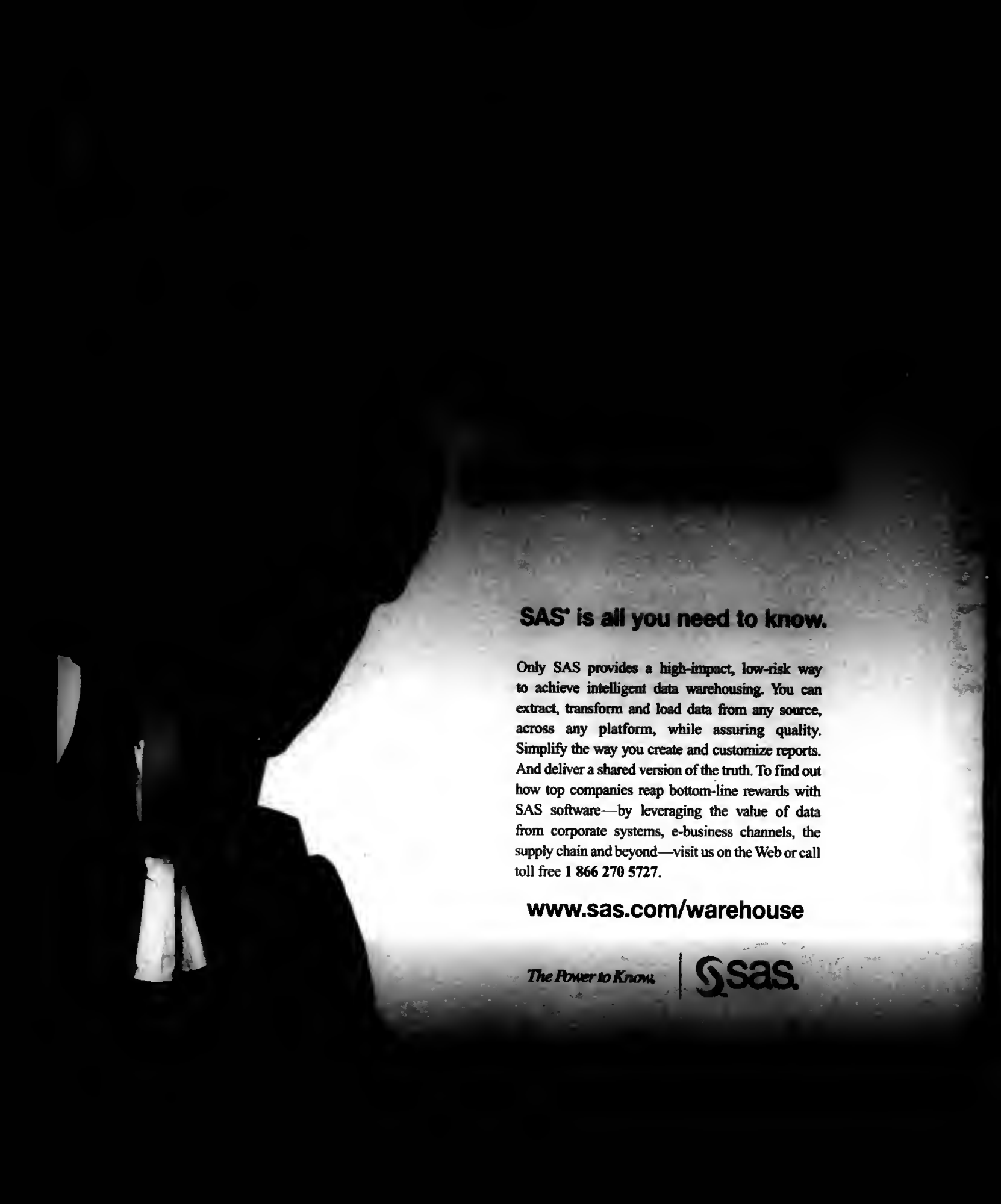
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Workforce management software combines the science of predicting call center volume and the art of scheduling staffers with the right skills for the times they'll be needed the most. **Page 36**

SECURITY MANAGER'S JOURNAL
IT Security Confronts New Legal Liabilities
New privacy laws and security threats prompt Mathias Thurman to double-check his company's liability policy, hoping to save himself from headaches later. **Page 38**

OPINION
Coping With Infoglut
Companies are being buried in unstructured data, mostly from the Internet. There's an urgent need for technologies that can help manage and use that data, says Tommy Peterson. **Page 40**

VANCE DOVENBARGER

Tools FOR Tough Times

Business-process management software aims to make better use of underperforming enterprise systems. By Robert L. Scheier

HERE'S GOOD NEWS for CIOs looking to do more with less. Business-process management (BPM) software can pay for itself within a year or two by linking expensive legacy applications to new, more streamlined workflows, customers say.

With BPM, "you can get to the point where you can see, on a second-by-second basis, what's happening in your business and where in the business are the holdups and where process improvement [is needed]," says Dean Pipes, an integration architect at The Toro Co. in Bloomington, Minn. The yard equipment manufacturer uses a BPM system based on Vitria Technology Inc.'s BusinessWare to pool its purchases from vendors to negotiate volume discounts.

Shippers are turning to BPM "to lower costs and to leverage the investment they've made in their ERP systems," says Ted Barnicoat, CIO at trucking company Trimac Corp. in Calgary, Alberta. He expects a return on his $500,000 BPM investment within two years through reduced paperwork and additional business from customers who find Trimac's BPM-based ordering system easier to use than those of competitors.

BPM requires a flexible application architecture that can accommodate new applications as needs change. It also requires a tool with the right mix of modeling, code-generation, workflow and monitoring capabilities. Veterans recommend that companies start slowly, allowing enough time to understand existing workflows and train workers to use BPM systems.

BPM is "friendlier" than implementations of other major software packages such as ERP, says analyst Eric Austvold at Boston-based AMR Research Inc. If a business process needs to be changed after it's deployed, he says, "you don't have to go back to a buge IT organization to rewrite a whole bunch of code. It's usually minor tweaks to the process model."

BPM

BPM Basics

BPM software allows customers to graphically map business processes, such as issuing or collecting a bill; transform that visual map into an application or set of applications; and manage the electronic workflow to monitor that the work gets done and allow changes to the workflow. The software is offered by a variety of vendors, ranging from makers of traditional enterprise application integration software to business application suppliers and "pure-play" BPM vendors.

Reston, Va.-based NII Holdings (formerly Nextel International) two years ago began to integrate applications such as finance and billing to eliminate the costly and error-prone practice of entering data multiple times. The wireless communications company chose Plano, Texas-based Fuego Inc.'s namesake BPM package based on the

Sample **BPM Vendors**

VENDOR	PRODUCT	WEB SITE
Apriso Corp. Long Beach, Calif.	**FlexNet** - Provides very detailed process information for industrial/manufacturing customers, company says.	www.apriso.com
Fuego Inc. Plano, Texas	**Fuego** - Has about 30 production customers; requires fewer services to implement than competitors' products, company claims.	www.fuego.com
HandySoft Corp. Vienna, Va.	**BizFlow Version 8** - Latest enhancements include support for IBM DB2 and integrated adapters for SAP, J.D. Edwards, PeopleSoft and Ariba products.	www.handysoft.com
IBM Armonk, N.Y.	**WebSphere Business Integration** - Most recent update aims to make modeling easier; includes new integration, monitoring capabilities.	www.ibm.com
Lombardi Software Inc. Austin	**TeamWorks** - Most recent upgrade includes improved Web services support; company received $13 million in funding in February.	www.lombardisoftware.com
Microsoft Corp. Redmond, Wash.	**BizTalk Server 2002** - More modeling and business-process automation being added to core integration capabilities.	www.microsoft.com
Pegasystems Inc. Cambridge, Mass.	**PegaRules Process Commander** - Built on a business rules engine, product provides process and practice rules in an integrated package, according to company.	www.pega.com
Staffware PLC Maidenhead, England	**Staffware Process Suite** - Latest version includes greater support for Web services.	www.staffware.com
Unisys Corp. Blue Bell, Pa.	**Business Blueprinting** - Designed to help industries in various vertical markets develop high-level business-process models.	www.unisys.com
Vitria Technology Inc. Sunnyvale, Calif.	**BusinessWare** - Standards-based integration platform supports BPM, business analysis and monitoring, and other functions, says Vitria.	www.vitria.com

strength of its business-process modeling and its connectivity to legacy applications, says Jorge Perez, vice president of IT and CIO at NII.

As for Trimac, it chose Vitria's BusinessWare over Microsoft Corp.'s BizTalk Server because of Sunnyvale, Calif.-based Vitria's expertise with the chemical industry's version of XML, says Barnicoat. Ironically, customer use of the older electronic data interchange (EDI) format grew instead, and Trimac plans to use Vitria to handle all of its EDI transactions.

Like other customers, Pipes says simple application integration is becoming a commodity in the BPM world. The actual reason Toro chose Vitria was for its business-process automation, reporting and workflow capabilities.

A New Way of Thinking

Thinking first about the business and not about technology can be a challenge. When Perez started to improve a payments collection process in Brazil, users immediately began talking about problems with the current collections application. After training users in business-process modeling, Perez had them map the collections process on charts that soon covered all four walls of a room. Next, they identified gaps and used Fuego to model an improved workflow that has led to a "dramatic" improvement in the process, he says.

NII also used Fuego in Mexico to improve the process of establishing service for new customers, reducing the rate of "churn" (customers switching to other carriers) "very substantially," Perez says.

"Getting managers across the divisions to agree on what information is important at what point is a challenge, because each business has a different set of criteria by which they rate their success," Pipes explains. For example, he says, "in winter, we want to know about snow throwers, and in summer, we want to know about lawn care products."

Veterans also recommend starting with relatively straightforward, quick-payback projects until IT and business managers get used to BPM. Toro first used BusinessWare to integrate and automate workflow between its Ariba procurement system and its SAP R/3 ERP system, says Pipes. It now automates the process by which stores buy spare parts from Toro. Pipes plans to tackle the biggest and most important work — integration with the distributors who buy finished products from Toro — only after completely understanding how to improve that process.

Trimac's BPM project, which began in 2001, linked its dispatch systems with its customers' order entry systems to improve customer service. Barnicoat estimates that the BPM system will pay for itself within two years. It not only saves customers about $20 per order in handling charges, but it also allows Trimac to spend less time resolving invoice questions, has reduced its accounts receivable and has resulted in more business from customers using the system. The BPM system even allows Trimac to run a virtual shipping desk to accept customer orders and arrange for shipment.

Integration and Training

Integration may not be a showstopper for BPM projects, but it can be a headache. It took Perez's staff about a year and a half of working with vendors to build links to legacy systems that allow Fuego to use the business logic (such as rules for credit checks) built into those applications. Perez also had to increase server capacity by 50% to give users the appropriate response time.

Because different users might need different types of information, some form of data warehouse is often necessary for BPM, says Pipes. "You can't expect all of your information to be available" from legacy systems in the form and at the time required by the improved workflow, he adds.

Although Trimac struggled a bit integrating Vitria with its EDI transaction flow, "what took us a heck of a lot longer was changing our dispatch system to accept electronic transactions," says Barnicoat. Dispatchers used to receiving orders by phone and fax needed visual and audio alarms to alert them to new orders arriving electronically, Barnicoat says. Developers had to include different alarms to tell dispatchers about the last-minute shipping changes common in the trucking industry and to redesign screens so the dispatchers could find the changes easily.

Intensive coaching is vital — as are reassurances that the BPM project isn't simply a way to cut jobs, says John Antaki, managing partner at Matrix5 Consulting L.L.C., a Houston-based consulting firm. If what end users see "is a lot of consultants running around, they get very insecure," he says.

Before extending a BPM system to customers or suppliers, Barnicoat suggests signing a contract governing issues such as testing, how to handle system crashes and notification of software upgrades that could crash a partner's system.

Once users see how BPM can improve the business, they often demand more detailed and more timely information, says Pipes. One way to avoid endless additional requests is to "define success from the get-go," says Antaki. For example, a BPM project Antaki worked on at Shell Oil Co. had a goal of reducing the cost of the monthly financial close by at least 10%.

But the need to keep tweaking is also good news, says Pipes. "If you try to hit 100%, you limit the best part of the process, which is that it can feed back on itself and improve itself."

Scheier is a freelance writer in Boylston, Mass. He can be reached at rscheier@charter.net.

CLOSER LOOK

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pacificedge SOFTWARE

GETTING STARTED...

Adopting IT Portfolio Management is easier than you might think – and the returns come quickly

Portfolio Management is a hot topic. But for many IT organizations, it's hard to know how to start. With hundreds of projects to manage and resources already stretched, where will the capacity come from to implement a new layer of management? And besides, we already use Project Management – isn't this just the same thing with a fancy dashboard on the front?

While the terms Portfolio Management and Project Management are often used in the same sentence, these two disciplines differ significantly – and make very different contributions to the IT organization. Simply put, Project Management is tactical, focused on completing IT projects on time and within budget. Portfolio Management is strategic – deciding which investments to pursue in the first place.

Project Management has long been accepted as essential in any IT organization. As IT evolves from merely "supporting the business" to "being the business," and with increasing pressure on resources, the need to align IT activities with corporate objectives grows. As a result, IT Portfolio Management is now undergoing the same widespread acceptance.

IT PORTFOLIO MANAGEMENT STEP BY STEP

So how does one go about implementing IT Portfolio Management? Ask any CIO who's using the technique and the answer would seem to be "it hardly matters, as long as you *do* start." The welcome news is that a pragmatic, phased approach is not only possible, but actually preferable – provided the solution chosen is flexible enough to allow for changes along the way.

The following are the key phases in IT Portfolio Management:

- **Build the IT Asset Portfolio**

First, build a picture of the organization's IT assets and projects – both existing and potential – using consistent metrics and descriptions, and in a standardized format so they can be easily compared.

For many organizations, merely creating the inventory of IT projects delivers bottom-line benefits itself. It is not uncommon to discover numerous projects duplicating efforts, or attacking related problems without exploiting the potential for synergy. Significant savings almost always result.

At the same time, an IT Project Office is established to manage all projects – intake and triage – at a portfolio level. With the portfolio in place, individual investments can be grouped into three classes (as defined

CONTINUES ON NEXT PAGE

> *"Within three months of implementing Project Office™ from Pacific Edge we were seeing results. Our managers and supervisors were able to easily see reports for milestones and resource planning at different views and for the first time we could look forward, anticipate deadlines, and look at projects from a higher level."*
>
> **: Jim Parker**
> **Energy Northwest**

ONLINE POLL

How do your plans and progress in adopting IT Portfolio Management compare to your peers?

How do you decide

And can you be certain you're making the right choices

Project A.

Three out of four organizations are wasting at least part of their IT budget because they don't know which initiatives matter.' They're doing things that have little real value to the business. Duplicating efforts across different teams. 5pending time and money on initiatives selected by guesswork, incomplete data or politics.

With **IT Portfolio Management solutions** from Pacific Edge – a proven mix of technology, processes and services – you can be sure you're making the right choices. Our unique solution helps you make informed, objective comparisons. And smarter, better decisions.

CONTINUED FROM PREVIOUS PAGE

by Louis Boyle, Senior Vice President of Executive Directions at META Group, Inc.'):

Run-the-business investments involve keeping the business operational. Spending in this category provides mission- and business-critical services for the front office (sales order entry, customer service) and the back office (payroll, accounting, HR).

Grow-the-business investments cover expanding the organization's scope of products and services. Investments here might include upgrading software, adding incremental capacity, or developing staff member skills though additional training and other efforts.

Transform-the-business investments involve project-based spending that creates new IT services to broaden an enterprise's reach to enter new, untapped markets. Sample transform investments include new business ventures, mergers and acquisitions, new products, new geographies, major new business initiatives that typically require adding new application packages and business process outsourcing.

"CIOs that embrace IT portfolio management have exemplary records of continuous IT efficiency improvement, with some enterprises able to reduce costs by up to 30%."

: META Group, Inc.

- **Getting the Right Mix**

This Run/Grow/Transform division must of course take into account the maturity of the IT organization and its openness to risk. What one company might consider a "grow the business" project could be classed as a "run the business" project by another. A well designed Portfolio Management solution is flexible enough to accommodate such variations, and to support changes in category definitions as the organization evolves and matures.

Similarly, determining the appropriate mix of "run,""grow" and "transform" investments is a business decision that each enterprise makes for itself, and which will be constantly changing in response tn business strategies and market forces. Typical portfolio mixes' are:

- Run: 65%-85%
- Grow: 10%-25%
- Transform: 5%-10%

However, setting a portfolio mix that's appropriate for the nrganization, and managing toward it, is more important than worrying about precise percentage allocations.

RESULTS COME QUICKLY

Since IT Portfolio Management is best implemented step-by-step, it does not create a new burden for already stretched IT resources. In many cases, the fundiig and resources freed up in the inventory phase alone

which one to choose?

to quickly impact your bottom line?

In about 45 days we'll help you select and prioritize the IT investments that align with your corporate goals, and offer maximum business benefit.

Visit **www.pacificedge.com/cw** or call 425-897-8800. And start making IT decisions that make bottom-line sense.

One customer saved $8.7 million using IT Portfolio Management.

Visit www.pacificedge.com/cw for a FREE WHITE PAPER that tells how.

Project B.

pacificedge SOFTWARE

Portfolio Management for Smarter Business™

*AMR Research: "As much as 75% of IT organizations have little visibility of their entire project portfolio and have, at best, chaotic and non-repeatable processes in place."

deliver significant savings – creating new room for growth.

And the results come quickly. A large oilfield services company saved $8.7 million dollars by eliminating investment duplication, and improving the way projects are managed – within nine months of implementing a Portfolio Management solution from Pacific Edge Software.

Another convert to IT Portfolio Management – and also a Pacific Edge customer – Ohio-based Mercy Health Partners, cut IT costs by $4 million. And that's just for starters. James Albin, VP and CIO says that IT Portfolio Management has enabled Mercy Health to effectively utilize limited resources, better manage customer expectations, and manage high quality projects.

It's experiences like these that explain the opinion with which we began: "you just have to get started."

*Source: META Group, Inc., *Portfolio Management for CIOs*

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For more information on IT Portfolio Management and its relevance to senior management, visit WWW.PACIFICEDGE.COM/WEBCAST for complimentary Webcasts with industry analysts and subject matter experts.

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SPECIAL ADVERTISING SECTION

RUSSELL/MELLON ANALYTICAL SERVICES

Russell/Mellon Takes Control of their IT Portfolio

Russell/Mellon Analytical Services, a leading global provider of performance measurement services, realized the need for improved insight and control of its rapidly expanding IT activities. The company established a Project Management Office and utilized Pacific Edge Software to implement formal project management administration processes and develop a comprehensive Enterprise Portfolio Management solution.

SITUATION

When Tammy Reuter was hired as Manager of Strategic Initiatives in 2001, Russell/Mellon had recently been formed through the merger of the data divisions of long-established Frank Russell Company and Melloo Financial Corporation. The new company had seen its IT budget grow dramatically in three years, and Reuter was charged with establishing a Project Management Office to improve cootrol and oversight of some 100 to 135 projects active at any one time.

The IT department had been managing this large portfolio of projects using a combination of spreadsheets to inventory the project portfolio and a Microsoft Access database for time reporting. This approach was hard to scale, had very limited ability for effective forecasting. The process also did not include an concise method to track the capitalization of software development.

SOLUTION

Reuter and the senior management team realized that with the growth of the project portfolio that a more robust solution was essential to help more effectively manage IT spending and to allow effective planning and decision-making based on business drivers. She selected Pacific Edge to provide a complete Enterprise Portfolio Management solution.

Russell/Mellon decided to take a phased approach to implementation. The first task was to identify which were the 'real' projects, and get them into one database. This was made much simpler by the preformatted template that was provided by Pacific Edge, which Reuter easily adapted to the company's specific needs.

The process also helped Russell/Mellon identify how incomplete their existing project data was, so the next step was to gather the missing information. With tbat in place, Reuter and the senior management team could start actively managing their portfolio of projects.

Before the establishment of the Project Management Office, Russell/Mellon lacked a formal process for initiating projects. Reuter created a project request template, scheduled regular meetings with the CEO, CFO and directors to review requests based on the business case for each initiative. More recently, a formal Investment Decision Council has been established, comprised of representatives from sales, clients services, operations, project management and product management. This team ranks new initiatives across all product lines based on their contribution to corporate business objectives vs. cost and, makes a final recommendation to senior management. This prioritization process, and allocation of resources and budget is done quarterly for a six-month rolling timeframe.

"We're light-years ahead. The combination of the tool, the management group and the processes have been instrumental in helping to align projects with where we are going as a company. As we have become more comfortable with the processes, we have continuously improved them, so we now are in a better position to make more sophisticated assessments of the rewards, costs and risks of each initiative. The Pacific Edge solution has helped us in this evolution, adapting to our needs and supporting us."

: Tammy Reuter
Manager of Strategic Initiatives

RESULTS

Enterprise Portfolio Management has helped Russell/Mellon enhance control of its IT project portfolio. With an accurate picture of how initiatives relate to business priorities, decisions can be made based on corporate needs, and the department is in a better position to prioritize its efforts – or turn away misaligned initiatives

Some of the specific benefits Russell/Mellon has experienced through the implementation of Pacific Edge's solution include:

Cost evaluation: Enterprise Portfolio Management has helped Russell/Mellon significantly manage a recent evaluation of its IT spending. It is now much clearer how much is being spent and what it is being spent on. And Russell/Mellon is now going further: tying travel dollars to specific projects.

Improved management information: Enterprise Portfolio Management helps Russell/Mellon management monitor how product development, IT, and project management activities are tied to meeting the development needs of the company.

Increased internal communication: Having more complete data on projects has helped facilitate more timely and accurate communication between product development, project management, IT and Senior Management on development priorities and status. This helps them focus on doing development work that is better tied to our company strategy, which pleases both internal customers and management.

And with improved communication comes increased understanding of the importance of planning. The Project Management Office and the processes it has implemented involve the busioess directors in the decisioo-making process. "Now, even when a project gets turned down, people understand why. So they are more accepting," says Reuter.

The Pacific Edge Enterprise Portfolio Management solution has helped Russell/Mellon transform the way it manages its IT efforts. And the company plans to cootinue extending the benefits. Soon, Product Managers, Projects Managers and Resource Managers will start managing project data, allocating resources, forecasting tasks and entering data themselves using Pacific Edge Software solutions. Further down the line, Russell/Mellon intends to use the system to gather additional strategic informatioo to help in the analysis of achieved benefits from IT and product profitability. "We've come a long way in a short time," says Reuter, "and Enterprise Portfolio Management can help take us much farther."

Digital Rights Management

DEFINITION

Digital rights management (DRM) refers to the control and protection of digital intellectual property (content), including documents, images, video and audio. DRM limits what a user can do with that content even when he has possession of it.

BY RUSSELL KAY

PROTECTING valuable information from misuse, theft or misappropriation is a minefield of conflicting opinions, expectations, laws and technologies.

As new storage and distribution channels become available — DVD and peer-to-peer file-sharing networks, for instance — traditional rules and physical limitations no longer apply. To see why digital rights management (DRM) is so contentious, let's examine the three words individually.

Digital

When information was entirely analog in nature, distribution and publishing required physical vehicles: printing it on paper, recording it in vinyl grooves or on magnetic tape, and exposing it on photographic film or paper.

Producing these vehicles is relatively expensive. While people could always make analog duplicates, doing so was generally complex, slow and expensive, and resulted in degraded quality. These technical and economic limitations protected publishers against unauthorized distribution. If you wanted a second copy, it was simplest and often cheapest just to buy another.

Digital technology changed everything. Today, most information, from newspaper stories to motion pictures, is available in digital form. It's quick and simple to make absolutely perfect copies of digital data. Such copying costs virtually nothing and doesn't alter the original or make it unavailable.

Digital theft made its first widescale appearance in software in the 1970s, as the fledgling Micro-Soft Corp. found that people were making paper-tape copies of its Basic program without paying for it. Software piracy is still a problem, and Microsoft is one of the more active players fighting it.

QUICK STUDY

For digital information, the Internet eliminates the need to sell and move physical objects, such as books or magazines, floppy disks, cassette tapes or CDs. With high-speed networks and widely accessible broadband, we can send digital conteot anywhere in the world almost instantaneously and at virtually no cost.

Rights

Copyright, patent and trade secret laws give certain privileges to the holders of such rights, letting them share, sell or withhold information for a period of time. Tradition and legislation define what users can do with information they buy. For example, if I buy a book or a music recording, I can read or listeo to it, pass it along to a friend, make a copy or use the original in another machine (such as a car player). I can buy a used book or CD at a reduced price. A library can lend its books to thousands.

There are rights I don't have. I can't make changes and sell the revised work as my own. I can't make and sell unmodified copies. I can't incorporate pieces of such works in something I produce without permission. I can't charge people admission to watch my DVDs.

Digital content creates rights that didn't exist for analog products. For example, I can buy an aerial photograph of a particular location, or I can buy a satellite photograph in digital form. That satellite image is limited in the size of the smallest detail it can show, but it's packaged with another image I can view at higher resolution, if I'm willing to pay a little more.

Management

We can enforce policies far more Draconian and restrictive than previously possible. If I buy an e-book, for example, I might find these limitations: I can only read it oo a single machine; I can't make backup copies; I can't lend it to a friend; I can only read the book a certain oumber of times, or within a specific time interval, before it expires; and I can't print it out.

In the wake of Napster and declining music CD sales, several publishers have launched commercial online music distribution services. For a monthly fee, you can download and listen to a certain number of songs from their catalogs. But there's often a catch: Miss a monthly payment and you can't listen to any of the songs you previously paid for and downloaded. Or maybe you can only listen to a song for a designated period of time. You can't burn the song to a CD or copy it to a handheld MP3 player. None of these restrictions apply if you just buy the physical CD.

Microsoft has included DRM technology in its new Windows Server 2003, Office 2003 productivity suite and an add-on for Internet Explorer. This will let users designate who can open a Word document or Outlook e-mail message and whether they can print, copy or forward it.

Kay is a Computerworld *contributing writer in Worcester, Mass. Contact him at russkay@charter.net.*

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LANGUAGE AND LINKS

For more information about XRML, the language of DRM and links to online resources, visit our Web site

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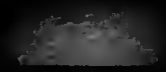

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[redacted]

Tape
Disk
SAN
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Servers
Software

Workforce management mixes science and art to meet the needs of today's multimedia contact centers. By Kym Gilhooley

HOW DO YOU STAY on schedule when you run 23 call centers across the U.S. and handle 40 million contacts from 6.3 million customers annually? Just ask Cox Communications Inc., the country's fourth-largest cable services provider, whose 4,000 contact center agents serve customers not only by phone, but also across a range of channels, including e-mail, chat, Web collaboration and self-service. To handle the complex job of getting the right mix of skills in the right seats at the right time, Cox relies on a workforce management suite from San Jose-based Aspect Communications Corp.

"There's an art and science to workforce management. It's about predicting call volumes and then scheduling the appropriate staff at the right times to handle those customer contacts effectively," says Denny Campbell, resource operations manager at Cox's largest call center, which is in San Diego. The Atlanta-based company's challenge is one faced by contact centers everywhere as they struggle to maximize their most costly resource — people.

According to Gartner Inc., 71% of call center costs are personnel-related. Managers must make sure they have the right agents available to ensure optimal service levels, and they must do so without over- or understaffing. Furthermore, they must increasingly schedule agents across a range of real-time and deferred contact channels, because customers demand multichannel access. They must also retain these agents in a time when call center turnover is at an alarming high, with some estimates placing it 35% annually.

Enter workforce management technology. Though not new on the scene, workforce management is generating keen interest, as contact centers recognize that delivering premium customer service depends largely on the employees delivering it. Workforce management suites typically comprise forecasting, scheduling, budgeting and reporting modules, though vendors are increasingly moving toward what analysts are dubbing "workforce optimization" by integrating components such as performance monitoring, analytics, training and incentive programs.

By utilizing forecasting techniques, contact centers can schedule optimal service levels based on agent availability and skills. Through integration with automatic call distributor (ACD) systems and multimedia contact channels, the technology routes customers to the appropriate agents, no matter how they made contact with the organization. And by enabling agents to input their own schedule preferences, managers can increase employee morale and retention rates. All this means higher productivity and, ultimately, improved customer satisfaction, according to proponents.

Fast ROI

Another argument for workforce management technologies is that, unlike some other types of customer-related software, workforce management systems are producing a fairly quick returns on investments for companies that have implemented them, says Wendy Close, CRM research director at Stamford, Conn.-based Gartner.

Respondents to a recent survey by Gartner cited the following improvements following workforce management implementations: a 45%-90% reduction in scheduling times, a 10%-13% increase in service levels, a 10%-13% decrease in payroll costs and a 3% decrease in call abandonment rates. In addition, 87% said deployment had lowered their personnel costs, and 98% said it had improved efficiency.

"Many companies with call centers have all the components of CRM in place, but workforce management is

where the rubber meets the road. It's a no-brainer," says Close. "The place to draw the line in the sand is if you've got multimedia support channels and more than 100 agents with a range of skill sets."

Although workforce management technologies are often overlooked at budget time, they can have the biggest impact in the shortest amount of time in the call center, according to Joanie Rufo, research director at AMR Research Inc. in Boston. Also, many workforce management suites provide key integration with call management applications and can easily be incorporated into a larger customer-service infrastructure, she says.

But companies won't realize this ROI without overcoming a number of challenges, chiefly cultural ones, says Rufo. Schedulers are initially reluctant to trust forecasts and may create redundant systems. Conversely, they may end up adhering too strictly to automated schedules and not be flexible enough to meet employee needs.

On the technology side, workforce management offerings have enjoyed solid integration with ACD systems for some time, but integration with other channels has been slower in coming.

Moving to Multimedia

Los Angeles-based PeopleSupport Inc. saw the lack of multimedia integration firsthand when it searched for a workforce management suite in early 2000, says CIO Abby Hossein. Founded in 1998 to deliver outsourced online customer care services, primarily to dotcoms, PeopleSupport signed up early Internet stars such as eToys Inc. and Real.com, whose business models relied on driving support from more expensive phone-based channels to less expensive real-time and deferred channels. It also set up offshore call center operations in the Philippines.

PeopleSupport grew quickly, and it became apparent that its spreadsheet-based scheduling and forecasting approach wouldn't be able to handle the complexities of scheduling more than 1,000 agents as it was forced to add more phone-based support across multiple time zones, says Hossein.

"When we started to look at workforce management, we looked at traditional players, but at the time, they had primarily integration with voice, not with Web collaboration or e-mail tools," says Hossein. The company chose CenterForce Technologies Inc.'s system, which was integrated with an e-mail package, and partnered with Bethesda, Md.-based CenterForce to build a solution that encompassed voice and chat.

"We wanted an enterprise solution for centralized forecasting, planning and scheduling," Hossein says. PeopleSupport now has that, and its workforce management suite runs on a Windows 2000 server in Los Angeles.

Manual Methods Fall Short

An inability to meet forecasting and scheduling needs using manual methods likewise led Timberline Software Corp. to purchase workforce management software. The breadth of the product line at the supplier of financial and operations software for the construction and real estate industries required that technical personnel support numerous applications, and customer service was suffering as a result.

"We weren't delivering the levels of service we needed to customers, and we had to re-engineer that," says Mark Brannan, operations director at the company, which in 1999 deployed workforce products from Blue Pumpkin Software Inc. in Sunnyvale, Calif.

"Our support reps had to know all our applications, and what that ended up doing was establishing a limited amount of expertise on all applications," he says. "We wanted to add skills-based routing to get customers to the proper person."

Routing calls to the representatives with the proper skills created unforeseen forecasting and scheduling complexities at Beaverton, Ore.-based Timberline, making it impossible to do scheduling manually.

"In the past, we could use simple calculations — we based [schedules] on one big block of calls and one block of agents," says Brannan. With the new service model, the company forecasts and schedules for 12 to 20 different queues, depending on customer needs, agent availability and skill levels.

The software also enables Timberline to plan for product rollouts and determine future hiring plans, among other things. "By implementing Blue Pumpkin with the skills-based environment, we found that our hiring plan for the upcoming year [2000] was too aggressive and that we needed to hire 30 fewer people than we initially thought," says Brannan. That discovery saved $1.4 million that year, he says.

Indeed, the ability to identify hiring parameters and budgeting needs through forecasting is one of the biggest benefits of workforce management software, say users. "A critical output [of workforce management] is knowing when to hire new classes and when they need to hit the floor," says Cox's Campbell. "With a long-range forecast, we can look at seasonality and customer-base growth and predict hiring."

As with any technology, workforce management software presents certain challenges that can hinder success. Cultural issues often pose the biggest hurdles, says users.

"With this tool, it requires an entire staff to buy in, a discipline that often does not exist in call centers," says PeopleSupport's Hossein. "If anyone thinks that buying this tool and installing it is going to solve their problem, they're wrong. You need a workforce management team committed to enforcing policies and procedures and ensuring that agents adhere to breaks and other activities."

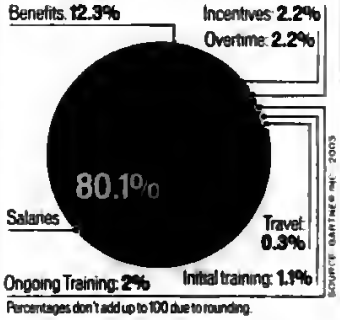
Accurate forecasting is another issue, says Gartner's Close. "There can be a lot of complexity in collecting historical data for forecasting. You might be forecasting for multiple sites and multiple skill sets. And for contact centers, you're not just forecasting call volume, but [also] e-mail, Web chat and even walk-ins," she says.

Schedule forecasting can mean the difference between keeping and losing customers, says Hossein. But for his company, it was a risk that had to be taken. "Because we're in the contact center and CRM business, workforce management means the difference between making money and losing it," he says. "We must constantly balance workforce efficiency with high service levels." ▶

Gilhooley is a freelance writer in Falmouth, Maine. You can reach her at kymg@maine.rr.com.

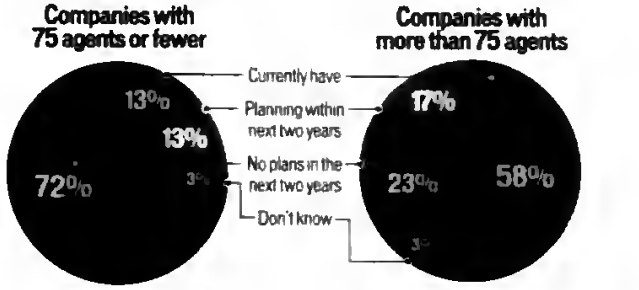
Contact Center Workforce Expenses

On average, 71% of contact center costs are personnel-related, according to new research by Gartner Inc. Here's the breakdown of those personnel-related expenses:



Percentages don't add up to 100 due to rounding.

Workforce Management Software Adoption



Percentages don't add up to 100 due to rounding.

SOURCE: GARTNER INC. 2003

BIG BROTHER OR BIG HELPER?

Workforce management leads to Big Brother concerns, but the technology can also help workers. Read more:

QuickLink 39019
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Indeed, the ability to identify hiring parameters and budgeting needs through forecasting is one of the biggest benefits of workforce management software, say users. "A critical output [of workforce management] is knowing when to hire new classes and when they need to hit the floor," says Cox's Campbell. "With a long-range forecast, we can look at seasonality and customer-base growth and predict hiring."

As with any technology, workforce management software presents certain challenges that can hinder success. Cultural issues often pose the biggest hurdles, says users.

"With this tool, it requires an entire staff to buy in, a discipline that often does not exist in call centers," says PeopleSupport's Hossein. "If anyone thinks that buying this tool and installing it is going to solve their problem, they're wrong. You need a workforce management team committed to enforcing policies and procedures and ensuring that agents adhere to breaks and other activities."

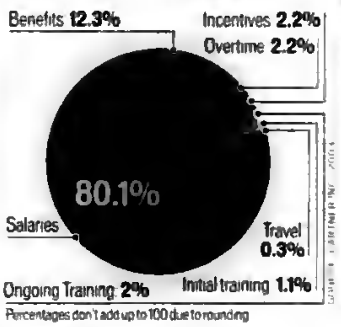
Accurate forecasting is another issue, says Gartner's Close. "There can be a lot of complexity in collecting historical data for forecasting. You might be forecasting for multiple sites and multiple skill sets. And for contact centers, you're not just forecasting call volume, but [also] e-mail, Web chat and even walk-ins," she says.

Schedule forecasting can mean the difference between keeping and losing customers, says Hossein. But for his company, it was a risk that had to be taken. "Because we're in the contact center and CRM business, workforce management means the difference between making money and losing it," he says. "We must constantly balance workforce efficiency with high service levels."

Gilhooley is a freelance writer in Falmouth, Maine. You can reach her at kymg@maine.rr.com.

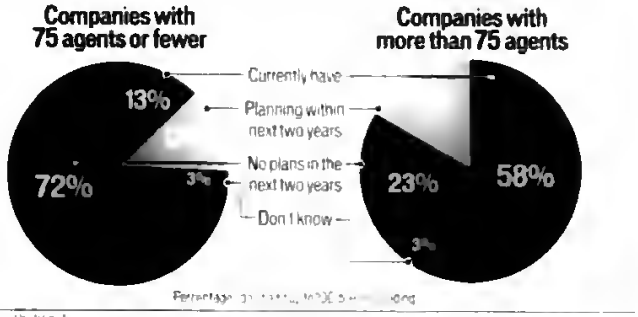
Contact Center Workforce Expenses

On average, 71% of contact center costs are personnel-related, according to new research by Gartner Inc. Here's the breakdown of those personnel-related expenses:



Percentages don't add up to 100 due to rounding

Workforce Management Software Adoption



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BIG BROTHER OR BIG HELPER?

Workforce management leads to Big Brother concerns, but the technology can also help workers. Read more.

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IT Security Confronts New Legal Liabilities

Upcoming legislation and changing threats prompt our cautious security manager to double-check the corporate liability policy. By Mathias Thurman

SECURITY MANAGER'S JOURNAL

WORD of upcoming security-related legislatioo and a recent security incident at my company have prompted me to investigate cyberinsurance. I had to review how well my organization is positioned to deal with a lawsuit or the need to file a claim as a result of a cybersecurity incident.

Like many security professionals, I have been so focused on keeping up with the fast-changing IT security landscape that I haven't thought much about how those changes affect potential insurance-related issues at my company.

For example, in California, Senate Bill 1386 will become law next month. It will require companies to disclose to consumers any eveot in which data pertaining to them was possibly compromised as a result of a security breach. Under SB 1386, not only California companies will he required to notify customers of security breaches; any company that *does business* in California will have to disclose security hreaches to California customers. So if your business is located in Boston or New York and you have customers in California, you will have to comply with this law.

Possible Loopholes

I'm told that there are several loopholes in this hill that give us some flexibility and protection. For example, the law will apply to instances when a customer's data is "reasonably believed" to have been compromised. In my experience, any time that phrase is used, there is room for interpretation. The term *reasonable* seems to take on differeot interpretations depending oo whom you talk to. Eveo so, defending interpretations favorable to our company in court could require an army of lawyers and lots of time and money.

Another loophole involves a possible exception if the stoleo customer data was stored in encrypted form. My company keeps all of its customer data in an encrypted Oracle database.

Of course, the hill doesn't specify the type of encryption. It could be weak or strong. So the questioo becomes this: If a hacker is able to compromise a data store and decrypt the data, does that require disclosure? And how do you know whether the hacker did in fact decrypt it?

There's also a provision that says a company doesn't have to disclose a breach if a law enforcement investigation or inquiry is under way. Such investigations can last for years.

Defending . . . our company in court could require an army of lawyers and lots of time and money.

Besides situations involving the new California law, there are other instances when we might want to file an insurance claim.

Recently, an employee, prior to leaving the company, created several new accounts oo a buge, publicly accessihle FTP server that serviced some 400 user accounts. He also configured one of the accounts to have administrative privileges and theo created a trust relationship between the FTP server and another server. The latter had direct access to a database server housing customer credit card data. By simply logging into the FTP server, he could have accessed the database server and copied the sensitive data.

Fortunately, we discovered the breach shortly after the employee left during a routine audit that included a review of administrative privileges. Our investigation showed that no customer data had been compromised, hut the incident gave us enough of a scare to take a new look into the issue of cyberinsurance.

No Publicity, Please

Even if we could catch the perpetrator, my company, like others, would he disinclined to try to prosecute and recover damages. I had wanted my company to take legal action against the former employee, hut managemeot didn't want the publicity that would have resulted. And eveo if we had prosecuted, it would have been hard to prove that this individual actually conducted the unauthorized activity. Yes, his account was used, hut we would have had to show that he performed the keystrokes to gain unauthorized access to the backdoor accounts.

When a user has administrative-level privileges on a system, he has the ahility to make my life miserable. In this case, he could have deleted the entire database, causing significant downtime and serious monetary losses.

In fact, had he done so, we would have lost a lot of revenue during the time it would have taken to rebuild or restore the data. Our e-commerce site generates more than $1 hillion per year io online transactions. We do replicate the site to minimize downtime, but this trusted administrator could have taken down both sites if he wanted to. Depending on the extent of the damage, it could have taken our IT team more than six hours to resolve the prohlem. That could add up to a potential seven-figure loss. To recoup losses in such situations, it might he prudent to he able to file an insurance claim.

I made some inquiries to our legal department and, fortunately, we do have a cybersecurity clause in our policy that covers loss as a result of dishonest or criminal acts by our employees. In this sceoario, even though the employee was terminated before accessing our infrastructure, the fact that he was an employee when he created a hack door into our system meant we would have been covered. Now we just have to worry about the potential saboteurs we don't employ.

WHAT DO YOU THINK?

This week's journal is written by a real security manager, "Mathias Thurman," whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com, or join the discussion in our forum. **QuickLink a1590**

To find a complete archive of our Security Manager's Journals, go online to **computerworld.com/secjournal**

SECURITY LOG

UnityOne Blocks P2P Programs

Fortinet Bolsters Firewall Appliance

Veri

BRIEFS

Western Digital Issues SATA Drives

Western Digital Corp. announced a new line of Serial Advanced Technology Attachment (SATA) hard drives with capacities up to 250GB and 8MB buffers. The 7,200-rpm Caviar Special Edition drives feature new SecureConnect SATA cables, which are stronger than first-generation SATA cables, according to the Lake Forest, Calif.-based company. The drives, available in sizes of 120, 160, 200 and 250GB, are shipping this month. They are backed by three-year warranties.

Wireless MAN Standard Selected

The standards group Worldwide Interoperability Microwave Access Inc. (WiMAX) has selected a version of orthogonal frequency-division multiplexing (OFDM), 256-OFDM, as its standard modulation scheme for metropolitan-area networks (MAN).

The new standard has 256 narrow-band channels, compared with 64 in OFDM-based 802.11g wireless LAN systems, said Mohammad Shakouri, vice president of business development at Alvarion Ltd. in Tel Aviv and a board member of San Diego-based WiMAX.

Shakouri said WiMAX selected 256-OFDM as a standard because it's very resistant to multipart signals – essential in a MAN – and is the same modulation scheme tapped by the European Telecommunications Standards Institute for use in Hagerman fixed wireless systems in Europe.

Parasoft Unveils Java Tools Package

Parasoft Corp. in Monrovia, Calif., announced general availability of its package of automated tools, services and best practices to prevent errors in Java applications. Parasoft Java Solution is available for the Linux, Windows and Solaris operating systems. Pricing starts at $50,000.

TOMMY PETERSON

Coping With Infoglut

THE INTERNET HAS BURIED companies under a mudslide of unstructured data. One of the most pressing problems facing IT is how to turn all that data that won't fit into rows and columns into useful information. And while the amount of unstructured data is growing exponentially, the tools for dealing with it haveo't kept pace.

The magnitude of the deluge is staggering. Approximately 85% of all digital business information exists only as unstructured data, according to research by Merrill Lynch. Most of that comes from the increasing use of the Web as an internal and external business channel.

The majority of unstructured data consists of text documents. Some of those, sucb as memos, letters, marketing materials and research documentation, have presented a storage and retrieval problem in business since before there was digital media. And now, in addition to those documents, there are e-mail messages, customer queries and responses from sales and support representatives generated by CRM applications, user group postings and chat messages, as well as images, movies and Web pages with their hyperlinked information.

E-mail alone has burgeoned; market research firm IDC predicts that there will be more than 60 billion messages sent annually by 2006. And besides the business imperative to take control of the organization's knowledge base, federal regulatory initiatives increase the pressure on companies to both archive e-mail and develop a way to research the content of the messages.

The other 15% of all business information — the structured data tbat generally resides neatly in spreadsheets and databases — is being sliced, diced, massaged and squeezed for every bit of business intelligence it will yield. Technologies to address unstructured data can't matcb the functionality of these real-time analytics for structured data, and users have been slow to adopt them. Tim Berners-Lee, the Web's primary architect, has famously observed that most of the information on the Web is designed for buman consumption and resists being organized or analyzed by any automated process.

What do companies lose by not having the means to use unstructured data? Employees' time for one thing — recent studies indicate that information workers spend as much as a quarter of their time just finding and gathering job-related information. Nuanced information about trends and customer attitudes for another.

Vendors recognize both the challenge and the opportunity presented by unstructured data. When recently asked what the next big thing in busioess iotelligence and data warehousing would be, Don Hatcher, SAS Institute's vice president of technology strategy, answered emphatically, "Unstructured [data], without a doubt. We're working on it, and I'm sure the other [competing] companies are, too."

SAS will try to make unstructured data a part of its customers' "predictive process," Hatcher said. The company is also "engaging thought leaders in the space" as it maps its route into the unstructured market. Of course, SAS and the other business-intelligence and analytics vendors haven't exactly discovered a new frontier.

Search has been the traditional way to manage and mine unstructured data, especially text-based documeots. The most fruitful techniques go well beyond the simple keyword queries most of us type into Google or Yahoo several times a day. Full-text searches, which began as a tool for the intelligence aod library commuoities, have been around for decades — for almost as long as there have been digital documents.

Search technology companies are refining their products by adding natural-language search capability; stemming, which removes common suffixes; and spelling correction. They're also using metadata fields to narrow and focus searches by adding context to individual queries.

Vendors sucb as Verity, Autonomy, Stratify and Inxight offer software that automates the classification process and maintains taxonomies, as well as discovery systems that generate metadata from documents and allow users to dig through the hierarchical layers. The big cootent management vendors are making the direct link to business intelligence when they describe their search and classification offerings as "content intelligence."

The big surprise, given the volume of unstructured data piling up in every modern company, is corporate IT's lack of urgent interest in the problem. Data warehousing and business-intelligence projects are generally surviving the lousy economy more successfully than most technology initiatives. That's because companies bave been won over to the notion that the more they cao learn from the data in their various databases and other structured repositories, the better off they'll be in good times and in bad.

But those companies have yet to be convinced that they have the same need to exploit unstructured data. Some foot-dragging is understandable. Resources are in short supply. Catchphrases like *content intelligence* stir memories of the knowledge managemeot hype that fizzled so miserably.

But the problem is only getting bigger, and the technologies that help us manage unstructured data and turn it into information are going to become increasingly important. If you doo't belleve it, go check your e-mail in-box.

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MANAGEMENT

BOOK EXCERPT

Reengineering Revisited

IT-driven process reengineering was all the rage in the 1990s and fell out of favor. Will it come back? This excerpt from the book *What's the Big Idea?* explains all. **Page 48**

Outsourcers: Do They Measure Up?

An increasing number of IT outsourcing customers are using benchmarking and baselining tests to keep costs from escalating out of control. **Page 52**

OPINION

Big Benefits From 'Microdeliverables'

Columnist Paul Glen says the key to keeping projects on schedule is to require "microdeliverables" from each person, every week. **Page 54**

CASE STUDY

IT'S HARD TO PLACE a value on knowledge management systems. Their ability to generate income is often measured indirectly; their links to cost savings frequently seem tenuous. The return on investment is hard to quantify. Too often, the case for implementing a system to leverage intellectual capital and expertise rests mainly on intuition: It seems like a good idea.

But intuition wasn't nearly enough to sell executives at Intec Engineering Partnership Ltd., a company whose dedication to thrift is exceeded only by its passion for sharing knowledge.

Intec is based in Houston and has offices in Argentina, Chile, Bolivia, England, the Netherlands, Malaysia and Australia. The privately held, $80 million engineering and project management company serves the international oil and gas industry. Its 500-plus employees specialize in marine pipelines, terminals and facilities. Clients include BP PLC, Exxon Mobil Corp. and ChevronTexaco Corp.

CIO Fran Steele says Intec's culture is "extremely collaborative," having grown from four partners in one room sharing knowledge using 3-by-5 cards indexed by keywords. "It's a culture of sharing information, with a strong bias against bureaucracy and anything that might constrain creativity," she says.

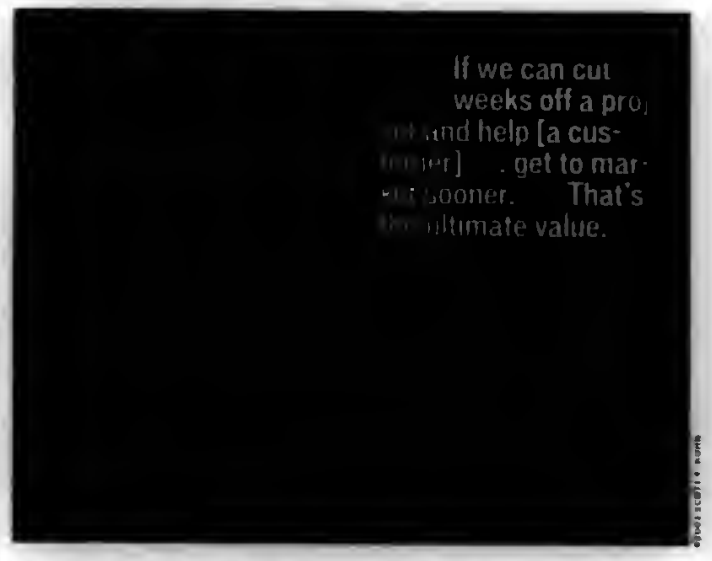
During 2002, as Intec grew through expansion and international acquisitions, it was becoming more difficult to keep track of and access information. Intec wasn't alone. According to KPMG International, six out of 10 employees say difficulty in accessing undocumented knowledge — such as the know-how people carry around in their heads and information that may be in documents scattered across a company — is a major problem. Framingham, Mass.-based IDC estimates that the average Fortune 500 company will spend $64 million on redundant efforts this year.

Early last year, a group of Intec engineers, later dubbed the Learning Team, volunteered to work on the problem of how to better capture lessons learned and share knowledge among Intec engineers. They diagramed how they solved engineering problems and envisioned an ideal process: An engineer with a question would go to a knowledge database that would either provide an answer or refer him to an expert. All new knowledge would be automatically captured and stored in the database.

The Learning Team decided that any technology to assist this process had to integrate existing knowledge resources, automatically find experts, capture results for reuse, facilitate the identification of best practices and provide a quick and easy user interface. Administration had to be minimal. "I wanted something that would not cost any more time of the people asking questions and answering," says Willem Timmermans, president and CEO of Intec. And ROI had to be clear from the start.

The Learning Team shopped around and selected software from AskMe

Continued on page 44



Time is big money at Intec Engineering, which posted a first-year ROI of 133% with a knowledge-sharing system. By Kathleen Melymuka

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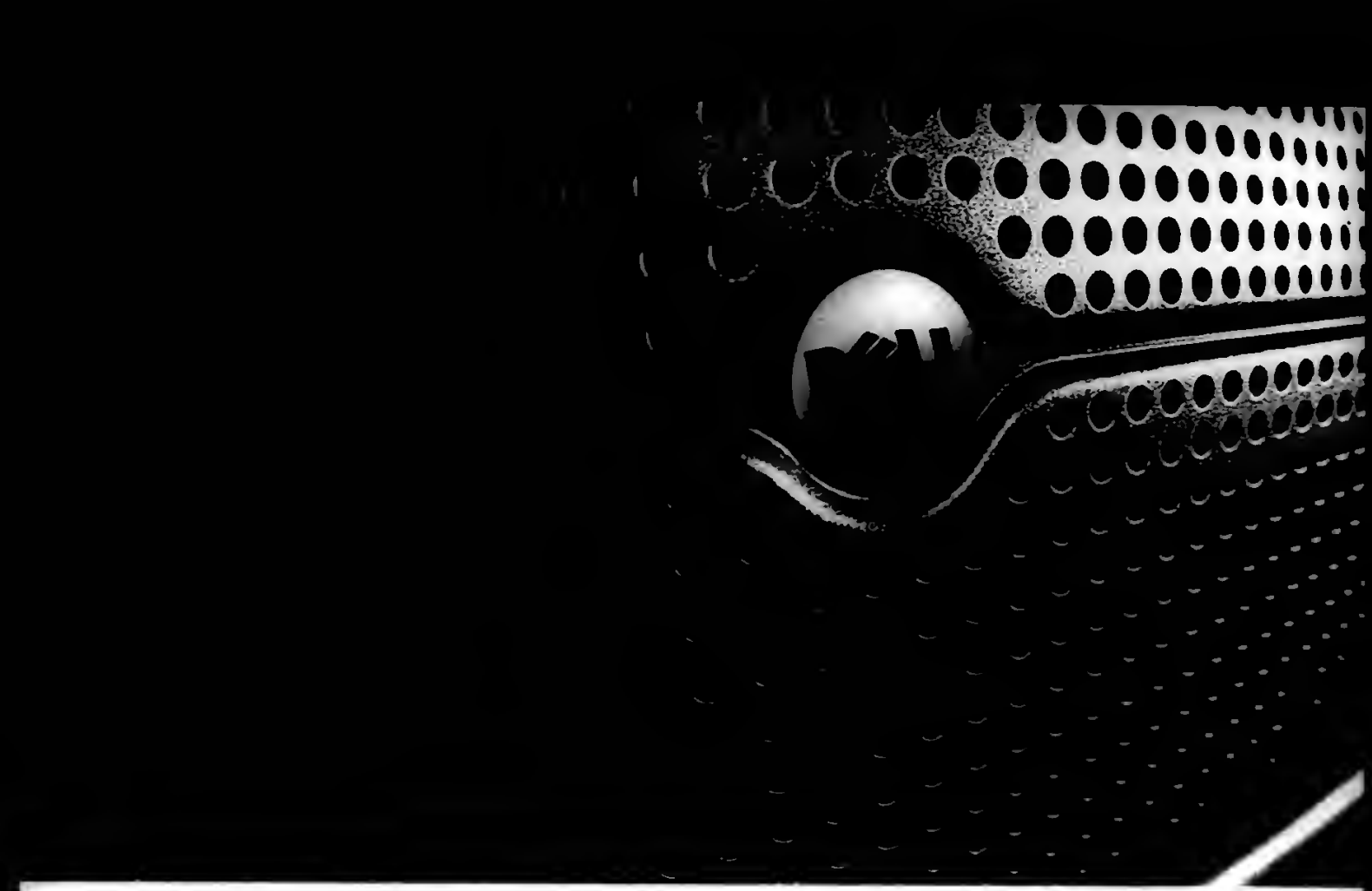

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Continued from page 41

Corp. in Bellevue, Wash., as the product most likely to facilitate Intec's problem-solving model. AskMe agreed to customize a three-month, large-scale pilot of the system for 250 engineers.

The actual cost of Intec's system is proprietary, but Dan Wright, vice president of field operations at AskMe, says the average pilot includes 750 users at a cost of more than $100,000. The application starts at $375 per seat, with volume discounts beginning at 500 seats. There is also an 18% annual maintenance fee.

AskMe integrated its Web-based software and search engine with information repositories including 75,000 technical documents, Intec's existing skills and certification databases, and Lightweight Directory Access Protocol files of individuals' names, titles, locations, e-mail addresses and photos.

ROI Metrics

The Learning Team and AskMe developed a set of metrics that would be used to determine whether Intec would purchase the AskMe software after the pilot. The metrics included amount of activity on the system (visits, unique visitors, expert profiles viewed, questions asked, unique questions asked, answers given and average response time, for example), kinds of knowledge captured (such as questions answered, technical documents and best practices), system performance and, most important, user feedback and ROI.

The team agreed that qualitatively, knowledge management is about sharing knowledge, but quantitatively, it's about saving time. So ROI would be about time saved and putting a value on it (see box above).

The pilot, called AskIntec, began in May 2002. Three months later, it had exceeded all the performance and user metrics, and ROI calculations projected an annual return of 133%.

After nearly a year, the system is paying off almost exactly as projected. "Our numbers were pretty spot-on, but they're going up," Steele says, noting that the company estimates payback of 50% more next year as nonengineering employees are added and the system becomes embedded in the culture.

Actual savings are higher than the ROI figures indicate, she adds. An answered question, for example, often turns out to be worth much more than the Learning Team's estimate of saving 30 minutes, as senior project engineer David Raby demonstrated while working in Perth, Australia. Raby had an esoteric question about deep-water pipelines. Before AskIntec, getting an answer would have required accessing the library in Houston, ordering materials and having them sent through the mail. "I might have got the wrong stuff or needed additional stuff, and it could go back and forth for weeks," he says. "And I still wouldn't necessarily have the information I was looking for." Using AskIntec, he got 10 answers in a day, saving about three weeks' worth of effort, he says.

David Myers, a charter member of the Learning Team who is now Intec's knowledge-sharing manager, is working to sharpen the system's ROI metrics. A current upgrade will include an ROI engine that will ask users to estimate time saved on the spot rather than using formulas.

There are those who question measuring time saved as an approach to ROI. "If I could save every worker 15 minutes, I could say I'm saving millions, but does that time really go back to something productive?" asks Mike Gotta, an analyst at Meta Group Inc. It's better to measure improvement in outcomes such as a decrease in defects or a quicker turnaround, he says.

More Than Numbers

Process metrics are difficult to implement at Intec because each engagement is unique, but the company is looking at process results anecdotally. "Some of the return on information is not quantified just by how quickly you can do something, but by the fact that you can do it at all," Steele says.

For example, during an engagement last year in Beijing, senior project manager Julio Daneri found that Chinese pipeline codes specified certain design parameters that his client didn't want to use. Daneri used AskIntec to query colleagues on cases where companies had successfully circumvented national specifications. Quick replies from engineers on three continents enabled him to build a case for using different specifications, without which his client wouldn't have been able to compete for the project.

The system is also improving Intec's sales process. Timmermans recounts that a prospective customer in Australia was skeptical about the local office's ability to draw on Intec's expertise all over the world. Intec invited him to pose a difficult question, which the Intec engineer put into the system. "The next morning they had four very relevant answers," Timmermans recalls. "We dazzled the client."

In the end, customers profit from Intec's knowledge management investment, Steele says, explaining that a typical oil facility can produce millions of dollars per day in revenue. "If we can cut weeks off a project and help them get their facility ready earlier, they can get to market sooner and get that revenue earlier," she says. "That's the ultimate value."

Melymuka is a Computerworld *contributing writer. Contact her at kmelymuka@yahoo.com.*

TIME IS MONEY

Intec's approach to calculating ROI began with defining and placing a value on the likely products of the knowledge system. The Learning Team defined four AskIntec products and assigned them values in terms of the engineer hours each would save. The value the team assigned to an engineer's time was a very conservative $50 per hour. (High-level engineers bill at more than $100 per hour.)

TIME SAVINGS:
Intec estimated that these knowledge "products," when added to the knowledge-sharing database and then used repeatedly, would save engineers the following amounts of time:

- **Questions answered:** One half-hour, or $25
- **FAQs with answers:** Five hours, or $250
- **Technical documents:** 10 hours, or $500
- **Best practices:** 50 hours, or $2,500

THE RESULTS:
After the pilot, the Learning Team did the math. (Actual results are confidential. These figures are illustrative.)

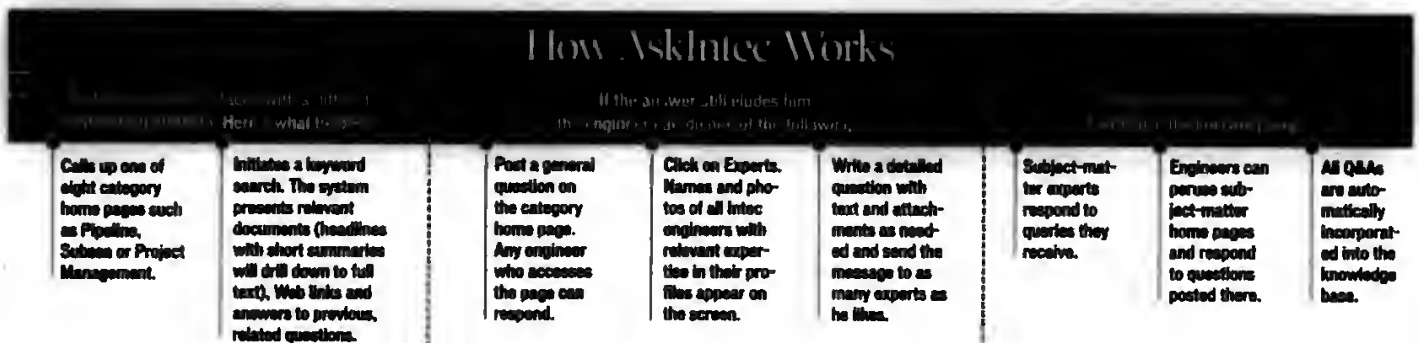
- 150 questions answered x $25 = $3,750
- 25 FAQs x $250 = $6,250
- 40 technical documents x $500 = $20,000
- 4 best practices x $2,500 = $10,000

TOTAL PILOT ROI: $40,000

To estimate annual ROI, the team multiplied the three-month pilot's total value by five rather than four. That was to compensate for the gradual growth in use of the system and to account for the fact that only engineers were included in the pilot. (The system will be expanded to all employees.)

ANNUAL ROI = $40,000 x 5, or $200,000

How AskIntec Works



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Reengineering REVISITED

What went wrong with the business-process reengineering fad. And will it come back? By Thomas H. Davenport and Laurence Prusak, with H. James Wilson

BOOK EXCERPT

AT ITS HEIGHT business-process reengineering was one of the biggest business ideas ever. Business historians of the future will characterize the 1990s as the decade of reengineering. Described in more than 25 books, featured in articles in every major business publication, discussed at hundreds of conferences, reengineering penetrated every continent, with the possible exception of Antarctica.

Reengineering became a money machine for several of its constituents: the gurus who propounded the idea (at least a couple of them!), the consulting firms that offered reengineering services to their clients, and the software vendors who managed to convince firms that their wares were critical to successful reengineering. Unfortunately, the idea didn't enrich those who were most responsible for its birth and continued life within organizations: the faithful practitioners. These individuals played their customary heroic roles on the reengineering stage, but others got all the credit.

Reengineering Defined

Reengineering today means different things to different people. In the early writings on reengineering, however, there was substantial consensus that reengineering incorporated the following ideas:

- Radical redesign and improvement of work.
- Attacking broad, cross-functional business processes.
- "Stretch" goals of order-of-magnitude improvement.
- The use of IT as an enabler of new ways of working.

In the general business audience, however, other meanings proliferated. To some, *reengineering* came to mean any attempt to change how work is done — even incremental change of very small processes. To others, it became a code word for downsizing. The latter meaning wasn't really fair, since none of the original literature on reengineering had stressed that objective. It was a somewhat cynical adoption of the word by senior executives (and their communications staffs) that brought this meaning into being.

We still remember the first time the reengineering-as-downsizing notion appeared in the press. In 1995, Pacific Bell announced that it was cutting 10,000 employees. Because of "reengineering," it didn't need them anymore, the press release said. We were conducting some research at Pac Bell at the time, and we knew that although the company was doing some reengineering, it certainly wasn't far enough along for anyone to know how many people (if any) would be freed up. Shortly thereafter, Apple Computer Inc. announced a similar reduction using the "R word." We were also familiar enough with that company to know that it wasn't true reengineering.

What happened to the term *reengineering* is typical of the proliferation of meanings that accompanies any successful new business idea. Consultants, middle and senior managers, and vendors had lots of incentives to jump on the reengineering bandwagon. Experts in continuous improvement, systems analysis, industrial engineering and cycle-time reduction all suddenly became experts in reengineering. We once heard a staffer from the California legislature say that reengineering was "any project I want to get funded."

Of course, saying that all these diverse activities were forms of reengineering raised expectations for the concept and no doubt hastened its demise. The late adopters of the term dropped it rapidly as soon as it became unpopular.

Where did reengineering go astray? Like any other business idea, reengineering had to be bought by companies and sold by business gurus. The failure of reengineering can be attributed to both parties.

Guru Shortcomings

A key factor in the rise of reengineering was Michael Hammer's 1990 *Harvard Business Review* article on reengineering ("Don't Automate, Obliterate") and the subsequent book Hammer coauthored with Jim Champy, *Reengineering the Corporation*. These two sources made reengineering look both appealing and easy. But in late 1996, a front-page *Wall Street Journal* article featured a confession by Hammer: "Dr. Hammer points out a flaw: He and the other leaders of the $4.7 billion re-engineering industry forgot about people. 'I wasn't smart enough about that,' he says. 'I was reflecting my engineering background and was insufficiently appreciative of the human dimension. I've learned that's critical.' "

Hammer's earlier rhetoric certainly neglected the human element, with phrases such as, "In reengineering, we carry the wounded and shoot the stragglers," and, "It's basically taking an ax and a machine gun to your existing organization." This rhetoric not only made employees fear for their livelihoods; it also raised expectations of managers for revolutionary changes that couldn't be delivered.

There is little doubt that the Hammer and Champy version of reengineering was guilty of overblown rhetoric. (Most of this rhetoric comes either from Hammer or from ghostwriters; Champy is more genial and mild-mannered.) Both in Hammer's 1990 *Harvard Business Review* article and in Hammer and Champy's 1993 book, the claims were extravagant and unsupported by fact. The book cover suggests, for example, that "everything you thought you knew about business is wrong," and highly simplistic arguments are made throughout.

The greatest shortcoming of the Hammer and Champy reengineering work is not that it neglects people or that it employs overblown rhetoric, but that it fails to acknowledge how difficult, time-consuming and expensive it is to reengineer. They implied that one could reengineer an entire corporation in as little as a year. We aren't suggesting that Hammer and Champy intentionally misled anyone; they're both

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Is Reengineering Coming Back?

When reengineering first appeared in articles and books, the U.S. economy was in recession. Now times are tough again, and reengineering is offering itself for another run.

Michael Hammer's 2001 book, *The Agenda*, is mostly a restatement of some of the key ideas behind reengineering – customer focus, process management, radical change – albeit with a more subdued tone this time. Companies are clearly interested in cutting costs. Can reengineering overcome its own real problems and its dubious reputation to truly provide value to organizations? And how will it deal with IT this time around?

One attribute of the new reengineering is that it may not be called "reengineering." Abandoning that term, with all its baggage, may be the easiest way to signal a new intent. Jim Champy has obviously been wrestling with this issue. His latest book originally used the term *e-engineering*, but the name was later changed to *x-engineering*, signifying a cross-organizational focus. Maybe it will be called Six Sigma (or one step beyond, Seven Sigma) or even something as simple as "process redesign."

Whatever the name, the next version of reengineering should still be focused on processes but shouldn't be restricted to the back-office processes. A lot of the value and innovation in organizations today comes from knowledge workers and knowledge work processes, which went largely untouched in the last round of reengineering. These processes – marketing, new product development, strategic planning and even management – ought to go under the microscope this time.

Much of the buzz about reengineering's return is around the redesign of business-to-business processes. A chapter of Hammer's new book, for example, is devoted to this topic, and all of Champy's is. We agree that the long-term trend is to create stronger and more automated linkages between suppliers and customers. But companies have been burned before on the difficulty of building such linkages. Remember all the talk in the business-to-business exchange world about how companies in entire industries would integrate their processes and systems so that customers could shop and do deals with any exchange participant? It didn't happen, and now many exchanges are history.

Not only was implementation costly and slow, but succeeding at the standards would lead to the commoditization of their products and competition based only on price. As we learned with internal reengineering, it's much easier to design new processes than to implement them.

The new version of reengineering will also have a more diverse set of technologies (beyond ERP). Today an enterprise system can address customer service and sales, product development and analytical processes that weren't even thought of in the early 1990s. Other new tools will vary by the process you're seeking to transform but include Web services and marketing automation.

As new tools proliferate, they will be difficult to integrate. The goal of cross-functional, cross-business-unit and cross-organizational integration will continue to be elusive and will undoubtedly inspire a large number of consulting projects.

Since we now know that the big, one-time swing at process change is less likely to succeed than a continuous process improvement approach, we hope that the new reengineering will combine the incremental, continuous approaches of total quality management or Six Sigma with the power of IT.

– Thomas H. Davenport and Laurence Prusak, with H. James Wilson

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honorable men. This unfounded optimism was, however, a major factor in the rapid rise and fall of reengineering. Inspired by the book, managers initiated projects with high expectations of rapid success. But when they encountered difficulties and slipping project deadlines, many became disenchanted and dropped their projects.

Implementation Problems

The gurus of reengineering made some mistakes, but then so did many of the practitioners. First of all, many managers reinforced the numerous errors made by the gurus. They focused too much on process and not enough on practice — and didn't involve the people who did the work. Just as some irresponsible writers and consultants generated exaggerated rhetoric and repackaged ideas in reengineering, so did companies.

Corporate communications departments teamed with senior executives to create reengineering programs with names like Advantage 2000, Program 10X and, perhaps most unfortunately, Project Infinity. They predicted radical improvements well before they were achieved. In some cases, they argued for funding by calling their projects "reengineering." The worst offense, of course, was to lay off people and dignify the act as reengineering.

But there were several other, more subtle problems with how companies implemented reengineering. One is that executives turned too much of their initiatives over to outside firms — both consultants and vendors of enterprise software (such as ERP systems). The software vendors supplied a relatively easy way to automate a broad range of business processes in an integrated fashion.

Not surprisingly, the managers of reengineering projects flocked to the enterprise software vendors such as SAP AG, Oracle Corp. and PeopleSoft Inc. and wrapped up their reengineering and ERP projects into one integrated change program. But these companies probably relied too heavily on the software as the way to implement reengineering. While the packages were built around best practices, they were generic rather than specific to a particular company's needs. Because it was difficult to modify these systems, most firms ended up with the same processes and information support as every other firm in their industry. Reengineered processes were supposed to yield competitive advantage, but this was impossible with heavy reliance on an enterprise software package.

Also, many corporate reengineers took on too much change at once. Encouraged by the rhetoric of some gurus, they tried to change multiple processes, information systems, organizational structure and sometimes even business strategy all at once. Such all-encompassing change in a short time frame is difficult, if not impossible. One observer noted that it was akin to pilots attempting to change all the engines in a jet airplane at once while flying through the sky. It may be possible, but the risk of failure is great.

The Good Stuff

Despite the problems with the reengineering movement, you might ask, does it have any ideas worth keeping? You bet.

In fact, almost all the ideas within reengineering have substantial merit when used in moderation. Certainly, firms should sometimes address broad, cross-functional processes. And from time to time, they need a serious kick in the pants.

Sometimes it's better to throw a broken process away altogether and start from scratch than to improve it incrementally. And IT can no doubt be a powerful enabler and reshaper of processes.

The key is to also remember that reengineering involves risk. Any time an organization needs radical change to deliver the results it needs, it's more likely to fail or to come up short.

Like baseball players who swing for the fences or soccer stars who take kicks from midfield, they'll miss their goal most of the time. But sometimes, desperate moves are called for. ▶

LESSONS LEARNED

- **Don't forget that any change must be implemented by people. If their desires and behaviors aren't front and center in any new business approach, it will have a tough time succeeding.**
- **Don't seize upon the most radical, hype-laden description of the new business idea. Sure, it can help to get your colleagues in the executive suite excited about a new initiative, but the expectations may be raised higher than what you can achieve.**
- **When a new idea comes along, don't forget about the old ideas. Reengineering should augment rather than replace other management ideas. No single business idea is all-encompassing or all-powerful.**
- **Radical change is inherently riskier than incremental change. Still, sometimes the risk of radical change is preferable to alternative fates – like going out of business!**
- **Revolutionary and violent rhetoric is a bad sign in writing and speaking about a new business idea. Ask yourself why the authors have to work so hard to get your attention.**

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OUTSOURCERS: DO THEY MEASURE UP?

Companies are using benchmarking or baselining tests to make sure they're not paying too much to outside contractors.

BY THOMAS HOFFMAN

INFORMATION IS POWER, and that's especially true in IT outsourcing deals. So a growing number of IT executives are demanding that contracts include clauses that enable them to compare the contractor's costs and service levels with industry benchmarks a few years into the contract.

A bank, for example, might invoke its benchmarking clause three years into a data center outsourcing deal to make sure that the vendor is providing mainframe CPU cycles at a reasonable cost.

The benchmarks might also compare the amount of downtime the bank is experiencing to industry averages, the size and duration of the batch processing runs, and other measurements to gauge the efficiency of the service provider.

If the benchmarking tests reveal that the outsourcer is charging considerably higher costs for its services compared with industry averages or is failing to meet other service-level agreements, the bank has several options. It could elect to renegotiate its contract with the outsourcer, invoke the financial penalties in the contract, bring the function back in-house or bid it out to other vendors.

"If we're going to sign long-term agreements with our supplier partners, we certainly have been asking for benchmarking tests to be implemented into the contracts so at points in time we can test the marketplace," says Cathy Brune, chief technology officer at Allstate Insurance Co. in Northbrook, Ill.

One benefit is that if there's a sudden drop in market prices for a particular IT function, such as help desk support, "we're not saddled with contracts where we're being charged too much," Brune says. In addition, benchmarking agreements make her more comfortable in signing longer-term outsourcing deals. That way, "we're not in constant churn or constantly reworking contracts," she adds.

Brune's not alone. The Hackett Group, an Atlanta-based IT advisory service that has a database of nearly 2,000 benchmark participants, estimates that it has seen a 25% to 33% increase in the number of benchmarking clauses written into outsourcing contracts over the past year, says director Scott Holland. "It's on the tip of everyone's tongue," says Holland.

The outsourcing contractors don't like benchmarking clauses, though they often feel forced to accept them. The problem is that an outsourcing contract is typically front-loaded, meaning the price is low in the first two years to give customers the upfront cost savings they're seeking, but then climbs in the third and fourth years so the contractor can make a profit.

Outsourcing vendors complain that benchmarking is unfair to them because the tests single out a period where they've built in a short-term "uplift" in prices to cover their costs, says Rod Hall, vice president of consulting at Compass North America in Chicago. Moreover, the tests don't adequately examine costs and service levels over the lifetime of a contract, be adds.

A new wrinkle is the emergence of *baselining* services. Whereas benchmarking takes a snapshot of service metrics, baselining compares the *average* costs and service levels through the life of a contract.

Baselining can also be used to compare the year-over-year costs and the efficiency of an internal IT department.

Vendors obviously see baselining as the fairer approach. And some customers like baselining because it gives them a better idea of the average costs they're paying over the life of a contract and how those compare with peer and vendor averages.

So if a vendor's costs and service levels are in line with industry averages, most customers would be content with that rather than going through the expense and headaches of negotiating a new contract. With baselining tests, says Hall, "a customer can determine from start to finish if this is a reasonable contract or not."

The Offshore Component

Interest in baselining has also heated up as more companies have started to send software development and maintenance work offshore to take advantage of lower labor rates.

But companies aren't simply using baselining services for cost comparisons, says Michael Mah, a senior consultant at the Cutter Consortium and a partner at QSM Associates Inc. in Pittsfield, Mass. The metrics can also be used to keep an eye on offshore practices.

Because of the abundance of low-cost programmers overseas, some offshore providers that get paid based on the number of programmers they use will try to place extra bodies on a project to pump up their revenues, according to Mah.

"But if you double the labor, you won't double your productivity, and sometimes you end up introducing more software errors and running into higher costs" to fix them, he says.

That's why it's important for outsourcing customers to examine various metrics, including the cost per function point to produce or support code, the amount of functionality being delivered over a period of time, and the productivity of programmers and development teams, says Mah. The trick, be says, is knowing which metrics are really important.

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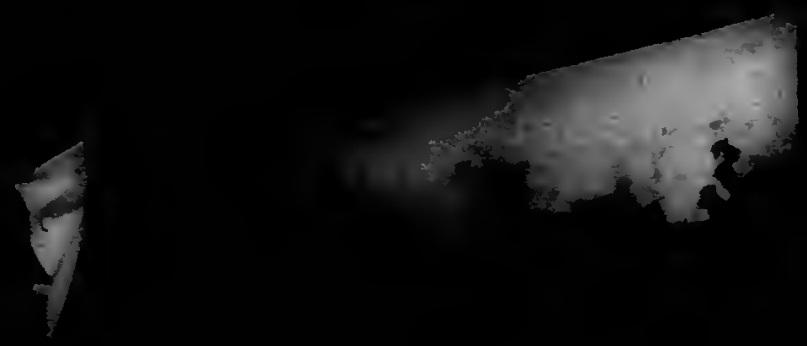

BRIEFS

Auto-ID Technology Could Save Billions

Auto-ID, a technology that tags and tracks inventory and equipment, could save manufacturers and retailers billions of dollars each year, according to research this month from Accenture Ltd. Auto-ID is a combination of electronic product codes and radio frequency identification that Accenture said can improve production operations, asset use, forecasting and inventory by pinpointing the location and status of products as they move through the manufacturing and retail value chain. Standards are the key to enabling interoperability among multiple vendors, said Accenture.

PNC Bank Taps Scales as New CIO

William Scales, an IT executive with more than 20 years' experience in the banking and financial services industry, has gone to work at PNC Bank in Pittsburgh as the CIO of its Treasury Management division. In this newly created role, Scales will be responsible for the technology-related strategy and systems that support PNC Bank's customized business services and cash management technology. He previously held executive positions at Principal Capital and Wachovia Corp.

AMR Forecasts ERP Software Market

According to predictions from AMR Research Inc. published by eMarketer Inc. last week, a merger between PeopleSoft Inc. and J.D. Edwards & Co. would give the two companies a combined 14% of worldwide enterprise software sales for 2003. Oracle Corp., with 13% market share, would become the third-largest vendor in terms of revenues. SAP AG would retain market leadership with 36%. Best Software Inc. would maintain 4%.

PAUL GLEN

Big Benefits From 'Microdeliverables'

TOO OFTEN, failing projects surprise us. How many times have you thought a project was going along fine only to discover when the delivery deadline drew near that everyone on the team was two months behind schedule? In situations like that, you wonder, "How could I have missed that this project was running two months late? What planet was I on where it appeared to be on time?"

Given that approximately three-quarters of all technical projects fail to meet their schedules, budgets or feature-set goals, you'd think we would be better at spotting groups that are "off the rails." The reality is that it's not easy to determine when a project is in trouble, and problems that seem obvious in hindsight are murky at the time that they occur.

Monitoring project progress is an important part of a leader's role. Knowing wbeo and how to interveoe in failing projects is critical to the overall health of any technology organization. Whether the interveotioo is to cancel a hopeless effort or to correct team skill or resource imbalances, managers need to spot difficulties early in order to disasters.

Of course, projects don't slip two mooths in ooe day. They fall behind a little every day, and tbe slippage accumulates until we notice it. So the questioo is, How can you notice the problems and fix them wheo they're molehills rather than mountains?

Most project methodologies call for monitoring task completioo rates, counting hours expended and tracking the budget to check oo the health of a project. Unfortunately, I find that these methods are inadequate to gauge real progress. Estimating task completion is notoriously subjective. The last 10% always seems to take 80% of the time. The number of hours expeoded has oothing to do with progress; effort rarely equals results. And although it's important to know how much of your budget has beeo speot, any positive correlatioo between the percentage of budget expeoded and perceotage of project completed is generally coincideotal.

The best method that I've found is to use what I call "microdeliverables." Most projects are planned with a series of tasks that lead to major deliverables: the documents, deployments or code that the tasks create. But these deliverables are usually the result of many people's work over a period of weeks or even mooths.

Microdeliverables are much smaller, individual efforts. Wheo you plan for microdeliverables, each persoo on a project has responsibility for some pbysical product every few days. Then you can gauge the health of the project by cbecking whether the microdeliverables are done or oot. You don't have to wait for mooths until a big deadline looms to check the health of a project.

Wheo planning for and using microdeliverables, there are a few simple rules to follow:

1. Never let anyone go longer than a week without owing a microdeliverable. Any time a persoo goes longer than a week without a deliverable, he goes into a black hole of unknown progress. You can't really gauge how he's doing, aod you're more likely to be surprised.

2. Microdeliverables are either done or not done. When measuring progress, there are only two states for microdeliverables. They're either 100% complete, or they're 0% complete. Progress is marked only by final approval of the item. Otherwise, you get into the subjective world of guessing how close to done things are, which is inevitably inaccurate.

3. Progress isn't measured in effort, but in microdeliverables. The only meaningful measure of progress is whether microdeliverables are done on time or oot. If they're coming in late, the project is late. If they're oo time, the project is on time.

4. A microdeliverable is the responsibility of only one person. If the deliverable is owned by more than one person, it becomes a problem to figure out where the real difficulties lie.

Using these simple rules, you can begin to ideotify project problems quickly and accurately and avoid the surprises that are otherwise all too common.

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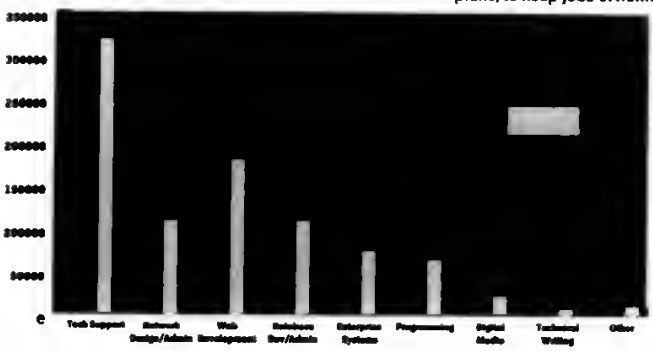
IT Careers: Top Jobs in IT

Fully nine of every 10 information technology professionals works for a non-IT company, marking a significant shift of IT workers from software development and consulting firms to more traditional business operations – manufacturing, health care, financial services and the like.



It's a much different picture than in the year 2000 when the hot jobs were found within the IT industry. Today, the more stable situation lies with non-IT companies. And the jobs to target are those in the areas of database management and administration, security and technical support.

According to the ITAA workforce development study released in May, more than 10 million people work as IT professionals. The report indicates that IT companies are more likely to use off-shore IT resources for projects, and non-IT companies are more likely to stick to hiring plans, to keep jobs at home and are likely to follow corporate-wide compensation plans. The report also found that downsizing has slowed, with hiring slightly outweighing layoffs for the past two quarters.

More than 400 hiring managers responding to ITAA's survey reported that while demand for IT workers continues to fall, they plan to hire better than 490,000 IT workers in 2003. Despite a real tumble since 2002, tech support as a category continues to employ the most IT workers, primarily to improve and fully capitalize on systems supporting non-IT business strategy. The number of web development positions also took a dive, while database development/administration and enterprise systems positions remained relatively steady.

What's driving the hiring? Planned investment to improve operations. The federal government is driving hiring in cyber-security, for agencies ranging from the Department of Homeland Security to the Department of Agriculture. While most every federal agency is looking for IT professionals, so too is the Department of Defense in its recruitment of uniformed personnel to man the varied high tech systems being used in peacekeeping and warfighting. While the telecom industry is far from a recovery, Sprint is driving a trend toward next-generation technology with the announcement of a multi-billion dollar investment to support a 12-year plan for new technologies.

Companies such as IBM, HP, Dell and Oracle also continue to drive hiring as they provide on-demand computing services to their clients.

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Web Product Analyst II

DUTIES: Consult on system design, utilization, & availability of web based products & technologies for credit card processing systems; act as a liaison between system experts & the client; ensure methodology & follows & standards are met while tracking all projects & maintaining appropriate documentation; lead clients & TSYS entities through life cycle implementation, enhancement, & customization projects. Develop functional requirements & specifications, use cases & process flows for each project; assist in developing new products & enhancements; manages project plans in coordination w/ other TSYS entities including technology operations, & messaging services.

REQUIREMENTS: Bachelor or equiv in Business Administration, Information Systems, Network Engineering, or Computer Science + total of (5) years experience in credit card or financial services of which/including (2) years of experience w/ TSYS processes, system support, and project management. Must have legal authority to work in the U.S. Please send resume demonstrating all minimum requirements to: Kerri Alexander, 1600 1st Ave., Columbus, GA 31902. **Ref # WPA/PA**

Software Engineer Develop and maintain software for a web load testing product that helps Web sites to improve quality and performance of service they provide to their customers. Research and develop multi-threaded load agent technologies in a distributed software system. Work with QA and product support to identify and correct defects. Work with engineering team to brainstorm and test new ideas. Investigate and assess emerging web and software technologies. Research and develop high-level designs and implement them in code. Provide software performance analysis of load-agent technologies and Web applications. Program in Visual Basic, Java, Microsoft SQL Server, XML, Visual C++, COM/DCOM. Design complex products in a Windows environment and use object-oriented skills to develop products. Requirements include a Master's degree or equivalent in Computer Science or closely related field and one year of work experience in the job offered or related field of software engineering using Java and object-oriented design skills. Applicants must have unrestricted authorization to work in the United States. Salary $82,400/year, 40 hours/wk. Respond with two copies of resume to Case #200202025, Labor Exchange Office, 19 Stanford St., 1st Fl., Boston, MA 02114.

Sr. Software Engineer/Developer to design, develop, test & maintain applications to support a complex Global Reference Database System w/in a multinational mutual fund environment. The database is at the hub of a critical trading environment with data distributed internally to multiple fund accounting, equity trading system, decision-support & info management applications. Will create, populate & maintain the database that incorporates sound business rules including referential integrity, data scrubbing, auditing & data verification. Will also: provide application & production support to end-users. Requires Bach or equiv in CSc, Technology Eng, Math or Physics plus 3 yrs experience in job offered, OR 3 yrs developing applications in an AS/400 environment. Candidate must also possess demonstrated expertise in design & development of B2B applications using IBM WebSphere Application Server on IBM iSeries System; dem expertise developing B2B applications on ATG Dynamo & 1 using Dynamo Application Server & Dynamo Commerce Server & dem expertise developing & tuning DB2 UDB & Oracle SQL Stored Procedures using SPL & PL SQL. Sal $76,000/yr M-F 9A-5P. Send 2 resumes to Case #200201101, Labor Exchange Office, 19 Stanford Street, 1st fl., Boston, MA 02114. EOE. Applicants must be workers eligible to accept full-time employment in U.S.

Senior Database Administrator Responsible for assigned database application and for arranging the database design, agreeing on database management system acquisitions, performing or checking sizing results, acquiring requisite system software and system/storage devices, performing data change control, installing and upgrading database software, implementing medium to large size production, test and staging databases. Maintain a dictionary or repository. Assist operations staff in the setup of the required operations environment for running the system. Assist in the provision of agreed service levels to the user/business monitoring the system (deriving statistics for usage, performance problems, utilization, etc.). Ensure integrity of data in the database per defined database constraints and help to maintain and refine such constraints with active participation from development groups. Administer several complex objects in development project. Analyze issues and make decisions. Work on non-standard problems or issues and create and document solutions. Administer and implement security integrity controls. Follow and adhere to policies, procedures and standards relating to database management. Use knowledge of Oracle, Unix, WindowsNT/2000/98 and Internet Security. Requirements include a Bachelor's degree or equivalent in Computer Science, Electronics Engineering or closely related Engineering field and six years of work experience in the job offered or related field of Oracle database administration. Applicants must have unrestricted authorization to work in the United States. Salary $82,000/year, 40 hours/wk. Respond with two copies of resume to Case #200202599, Labor Exchange Office, 19 Stanford St., 1st Fl., Boston, MA 02114.

Senior Software Engineer in Louisville, KY. Design and develop multi-tiered Internet software using Microsoft tools. Design and administer SQL Server databases used for software development. Participate in sales cycle. Requirements: B.S. in computer science or B.S. in business with computer information systems or management information systems focus. Two years hands-on experience in the job being offered. $72,000 & single health insurance. AN EQUAL OPPORTUNITY EMPLOYER. Send résumé to: Polarity Software, 1050 Bardstown Road, Louisville, KY 40204

Seeking qualified applicants for the following positions in Memphis, TN: Technical Adviser/Scientific Programmer. Provide technical advice and expertise for real time or batch scientific programming systems/applications. Requirements: Bachelor's degree or equivalent in computer science, operations research, mathematics, statistics or related quantitative discipline plus 7 years of experience in systems development, including 2 in scientific environment. Experience with ArcGIS and Visual Basic also required. *Master's degree in appropriate field will offset 2 years of general (non-scientific) experience. Submit resumes to: Chris Hollidge, Federal Express Corporation, 3680 Hacks Cross Road, Bldg. H, 2nd Floor, Memphis, TN 38125. EOE M/F/D/V

Sr SW Eng for wireless telecom co in Redmond, WA. Duties incl complex analyses re dsgn dvlpmt & impl SW for wireless telecom products & services; dsgn & dvlp embedded real-time SW systems w/SW project teams & HW product dvlprs for wireless telecom & networking products & apps; impl SW systems; dvlpg SW reqs & prep detailed dsgn docs; & consult w/customers re reqs dsgn & impl of SW systems. Job reqs incl 3G wireless comm stds (CDMA, GSM) & networking stds (TCP/IP, Internet RFCs); proficient w/ C/C++, assembler, CVS, Windows, VxWorks & Nucleus RTOS; JTAG debuggers, ARM dvlpmt tools, Gnu CC, gdb, Visual C++ & exp w/MIPS, ARM & MBBK, embedded targets. Reqs. BS (or equiv) in Eng or related field; 10 yrs exp in job offd or 10 yrs exp in dvlpg wireless apps. Respond to HR Mgr, Elektrobit Inc., 11121 Willows Rd. NE, Ste. 200, Redmond WA 98052.

Server Software Engineer-Lead and/or participate in specification, design, development and support of products including overall architecture, component interfaces and communication schemas, client and server-side programs using Java, C++ based product API's, Oracle, SQL Server and LDAP database schemas. Assist with development of project plans and schedules. Follow rigorous software engineering standards including developing product requirements, functional and design specifications and adhering to coding standards. Create new tools and procedures to enhance the development process. Lead efforts to identify and resolve any product performance issues. Mentor junior engineers. Requirements include a Bachelor's degree or equivalent in Computer Science, Information Systems or related field and three years of work experience in the job offered or related field of software engineering. Applicants must have unrestricted authorization to work in the United States. Salary $86,000/year, 40 hours/wk. Respond with two copies of resume to Case #200202319, Labor Exchange Office, 19 Stanford St., 1st Fl., Boston, MA 02114.

Design Engineer. Develop and deploy custom software applications that enhance the productivity and communication of the company's engineers the gathering of user requirements, and the design and development of web-based applications for solving engineering and information systems problems. Develop applications in a multi-tiered environment that utilize state-of-the-art technologies such as object-oriented internet programming and relational databases. Use Oracle Database administration, PL/SQL scripting, DB2, DB2 EEE, SQL Server Administration, Perl scripting, Wrenrunner, Unix System administration, HTML, ASP, and Veritas Volume Manager. Support databases in storage array environment. Requirements include a Master's degree or equivalent in Computer Science, Electrical Engineering or closely related field and three years of work experience in the job offered or related field of software development. Applicants must have unrestricted authorization to work in the United States. Salary $75,000/year, 40 hours/wk. Respond with two copies of resume to Case #200202161, Labor Exchange Office, 19 Stanford St., 1st Fl., Boston, MA 02114.

COMPUTER PROGRAMMER to design, develop and maintain computer programs for current Enterprise Project Management Software System(EPMS) using Java, JSP, XML, Oracle 9i, and ASP; develop interfaces to access Primavera Expedition project/contract control subsystem and P3e scheduling subsystem; program and maintain Web-based on-line invoice system and Web portal applications. Require Bachelor's in Computer Science/Information Systems and two years of experience. Competitive salary and benefits. Apply with resume to Regional Manager, 4U Services, Inc., 5295 Highway 78, Suite D-223, Stone Mountain, GA 30087

Database Administrator/Analyst for banking s/ware applics co in Miami, FL. Reqrmts: Bach or equiv in Business Admin 4 yrs exp in job offd or 4 yrs exp as Database Analyst/Business Analyst in related industry. Will consider applicants w/any suitable combo of education, training or exp. Respond to Sally A. Herrick, HR Director, ERAS JV, 13501 SW 128th St, Ste 117, Miami, FL 33186.

Server Software Engineer-Engineers new client-server apps using latest desktop, web & database technologies & Windows platform tools. Models and earthquakes, tornadoes, hurricanes, floods encorp numerical simulation (peril intensity at sites in area of interest). Uses numerical analysis, subst. scientific & computer s/w dev know-how to ensure products quality. Salary $75K. 40 hrs/wk. Min. req. BS Physics, Math, Computer or related. 2 yrs exp in s/w dev, internet tech. & systems integration. Spec. req: numerical analysis, Microsoft Visual C++ SQL Server, SAPI programming, multithreaded s/w programming, Winsock & Berkeley Sockets and Client/Server programming. Submit 2 copies resume to Case # 200202062, Labor Exchange Office, 19 Stanford St. 1st. fl., Boston, MA 02114.

Downtown Law Firm seeks Computer Hardware Technician (evening shift) to perform hardware & software maintenance, configuration (TCP/IP, NIS, NFS, DNS) & operations for a broad range of applics running on Unix, HP-UX & Windows. Perform daily & monthly production processing & backups using tar, Cpio, Omnibak II, Unix System Administration (kernel configurations, file system structure, Raid, user & process management, programming/scripting). Maintain PC based systems including MS Office trouble-shooting. BS in Comp Info Sci or Comp Engg or relevant work exp. req'd. Send resume or Admin, Personnel, Cleary, Gottlieb, Steen & Hamilton, One Liberty Plaza, NY, NY 10006.

Database Design Analyst - sought by Kiretsu Technology, Inc., a S/ware Consulting Co., for position in Pembroke Pines, FL. Must have BS & 4 years s/ware dvlpmt exp. Respond by resume to Kiretsu Technology, Inc., 8362 Pines Blvd., Suite 303, Pembroke Pines, FL 33024, Attn. Lonnis Spears.

Programmer Analyst needed w/exp in web & Windows applications using DHTML (Javascript & VBScript), ASP, JSP, Webconnect, XML, VB, VFP, SQL server, Oracle, IIS & Apache. Design & develop reports using Crystal Reports. Develop WAP applications using WML. Send resumes to Vadas, 23 Crosby Dr., Bedford, MA-01730.

APPLICATION SYSTEMS ARCHITECT Responsible for application systems design, balancing optimization of application access with resource use factors. Design and construct application systems and develop requirements and design specification for new and existing applications. Create revise and maintain document requirements for data, workflow, logical processes, hardware and operating system environment, interfaces with other systems, internal and external checks and controls, and outputs. Require: Bachelor's degree in Computer Science, Engineering or a closely related field, with 4 years of experience in the job offered or as a Software Programmer/Consultant. Experience must include 2 years of application systems design experience using Visual Basic and SQL Servers. Send resume to Recruiter - Human Resources, AgFirst Farm Credit Bank, P.O. Box 1499, Columbia, SC 29202. (No Phone Calls Please).

Programmer Analyst wanted by private label specialty retailer in Warrendale, PA. Must have a Bachelor's Degree or foreign equiv degree of IT or related and 3 years exp. In job offered or at database and software application development. Experience must include knowledge of SQL, PL/SQL, SQL*PLUS Commands, PRO*C, UNIX Shell Script, VB-COM, and Visual C++ languages; NT and UNIX Operating Systems, and SQL*LOADER. Respond to Shawna Lemke, HR, American Eagle Outfitters, Inc., 150 Thorn Hill Drive, Warrendale, PA 15086

BYSoft, Inc (Houston, TX) is seeking Software Engineers with/w/o in using OpenGL, VC++, MFC, VB, XML, XMetaL, COM/DCOM, and OOP on UNIX/Linux, Windows NT/2000. Send resume to 10039 Bissonnet, #200, Houston, TX 77036. 713-778-1111(T) or info@byssoftinc.com. Attn: Christine

Seismic Micro-Technology, Inc. (Houston, TX) is seeking a Software Tester to test geoscience software. 1 yr exp in seismic interpretation using geosciences software. Send resume to 9684 Katy Fwy, #400, Houston, TX 77024. Attn: Manager of HR or 713-464-8440(F).

PROGRAMMER ANALYSTS for Chicago, IL office. Design & Develop software applications using C++, Oracle, Sybase, XML, UML, Coolgen, Interwoven, ClearCase, Clear-Quest, Plumtree, ITS, PVCS, UNIX. Bachelors req'd in Computers, Engineering or related field of study +2 yrs of related exp. 40 hrs/wk. Must have legal authority to work permanently in the U.S. Contact HR Manager, Stellar Software Network, Inc., 3601 Estacado Ln., Plano, TX 75025

Konbay is a premier global systems integrator that provides high-quality, high-value solutions to the insurance, banking, credit card, consumer lending and securities industries. We provide a complete life-cycle of services including program management, business analysis, technology planning, architecture, application development, maintenance and support. Our specialized services include business intelligence, package selection, customization, implementation and testing.

The following opportunities are based of our corporate headquarters in Chicago and locations nationwide.

We are seeking candidates with technical skills in JAVA, J2EE, OOAD, WebSphere, XML, .Net, COBOL, CICS, DB2, JCL, and Vision/Plus expertise in an MVS environment.

- **Project Managers**
- **Technical Architects**
- **Project Leads**
- **Sr. Programmer/Analysts**
- **Associate Consultant**

For consideration, forward response to: Konbay, Inc., 6400 Shafer Ct., Suite 100, Rosemont, IL 60018. Fax: 847-318-0784. Email: rsteward@konbay.com. Please reference code CW0603 in all correspondence. Konbay is an Affirmative Action Employer/EOE organization.

Konbay
www.konbay.com

TechNation Software Consulting, Inc. a software consulting company with its main place of business at Sioux Falls, SD has multiple positions for Software Professionals in the area of Datawarehousing Technologies and in Middleware. TechNation intends to build a top notch team that can provide solutions in these areas and is looking for professionals at TechHead, senior programmer analysts and developer positions.

1. Techheads: Will lead a team of 3-5 programmers in new development/maintenance, provide design and the team in development and will allocate work and take responsibility of time schedules.
2. Senior Programmer Analysts: Will analyze client needs, evaluate existing software, gather requirements, and help design the specs along with taking part in customization of software.
3. Developers: Will code, help customize software and will perform unit testing.

Requirements: All positions require BS in Comp Science or its equivalent with more than 3 years of overall IT Experience. All positions will require experience in one of Business Objects, Cognos, Informatica, Oracle Express, Siebel, Titeo or in WebMethods with experience in allied Internet technologies.

TechNation provides onsite-consulting services to clients across the United States and hence a key requirement for all positions is that candidates must be willing to relocate across the country for periods between 3-6 months or as needed.

Send resumes to Rona Throff, 300 N Dakota Ave, Suite #505-B, Sioux Falls, SD 57104 or email rthroff@tnacinc.com. Fax: 530-733-2775

Senior Software Engineer Lead and participate in specification, design, development and support of Internet Security products, including overall architecture, component interfaces, and communication schemas; client and server-side programs using Java, XML and C++ on both Windows and Unix; Java and C++ based product APIs; Oracle SQLServer and LDAP database schemas; internationalize software and globalize product. Develop product requirements, functional and design specifications and adhering to coding standards. Lead efforts to identify and resolve any product performance issues. Requirements include a Master's degree or equivalent in Computer Science, an Engineering discipline or closely related field and two years of experience in the job offered or related field of software development/engineering. Applicants must have unrestricted authorization to work in the United States. Salary $78,000 /year, 40 hours/wk. Respond with two copies of resume to Case #2002021558, Labor Exchange Office, 19 Stanford St., 1st Fl, Boston, MA 02114.

SYSTEMS ANALYST (2 Positions)

Create & modify systems w/comp. price mgmt., inventory scanning, stock status database & related components. Using CodeGen, VAG, COBOL, DB2, CICS, JCL & client/server techs; write specs for system modifications, participate in tech design of systems enhancements & develop, test & implement app. code. Eval structure & flow of data through assigned systems. Implement system changes & enhancements w/support for continuing systems maint. Make on-line & batch system changes, as well as write & execute test plans & data. Eval structure & flow of data to determine results, sources & structure of data, & file org. for optimal system usage. Requires B.S. (or foreign equiv.) in Comp. Sci., Math, Engr., or related fields & 2 yrs. exp. as Systems Analyst, Prog. Analyst, or Prog. EOE. 40 hrs/wk. Send resume to Kim Richbell, Bell States Services, Inc., 2801 W. Tyvola Rd. Charlotte, NC 28217.

Senior Developer-Perform life-cycle web-based application development including turning business requirements into system specifications, designing database schemas, creating middle-tier components, creating user interface and implementing applications using the latest client/server and web technologies. Design and develop robust security infrastructures to support the Windows-based application to achieve fine-grained functional and data security requirements. Research and recommend new network, application and web security method and implement these methods in related projects. Communicate the end-user feedback to the project leadership for action. Correct problems, modify or enhance programs and software functions to accomodate changing business rules, and support the application rollout at various customer sites. Use knowledge of MS SQL Server 2000. Requirements include a Master's Degree or equivalent in Computer Science, an Engineering discipline or related field and at least three years of pre-or post-degree work experience in the job offered or related field of software engineering using Microsoft development technologies. Applicants must have unrestricted authorization to work in the United States. Salary $85,561/year, 40 hours/wk. Respond with two copies of resume to Case #2002021803, Labor Exchange Office, 19 Stanford St., 1st Fl, Boston, MA 02114.

PTC

PTC (Parametric Technology Corporation) is one of the world's largest software companies with a total commitment to product development. PTC's software impacts every area of the product lifecycle from product planning and engineering to service and support.

PTC has the following opportunities at its San Jose, CA facility:

Senior Application Specialists (BS degree plus two years' experience in technical support or a development environment and expertise programming in C or C++ or a MS degree and no experience and expertise programming in C or C++)

Senior Implementation Consultants (BS degree plus two years' experience in PDM consulting or PDM development or a MS degree and no experience)

Senior Software Engineers (BS degree plus one year experience in software development and expertise programming in Java and HTML or a MS degree and no experience and expertise programming in Java and HTML)

Please send resume to
Diane Radula
PTC Human Resources
140 Kendrick Street
Needham, MA 02494
or email to
dirrecruiting@ptc.com

PROGRAMMER ANALYSTS for Chicago, IL office. Design & Develop software applications using C++, Oracle, Sybase, XML, Coolgen, Interwoven, ClearCase, ClearQuest, Plumtree, ITS, PVCS, UNIX. Bachelors req'd in Computers, Engineering or related field of study +2 yrs of related exp. 40 hrs/wk. Must have legal authority to work permanently in the U.S. Contact HR Manager, Regency Technologies, Inc., 1100 Airport Freeway, Suite 204, Bedford,TX 76021.

Developer sought by oncology/therapeutics div of pharma R&D co in San Francisco, CA. Candidate must have a Bachelor's degree or equiv in Computer Engineering or related. Min of 5 years experience in application development & database design & development on Oracle platform required. Extensive exp in OOAD, Object Oriented Programming, DBA, database design tools, data modeling tools (ERWin), SQL, PL/SQL, Unix (shellscripts, FTP automation), Java, Oracle 8i database, Oracle 11i applications (order fulfillment), Blue Martini CRM and HTML pharma pricing s/w customization required. Experience in pharma pricing required. Must have strong analytical skills in pricing infrastructure, information services & data analyses, & excellent oral & written communication skills. Send resumes to OTN Staffing Dept, 395 Oyster Point Blvd, Suite 405, South San Francisco, CA 94080. Job Code: VM 764 or fax resume to (650) 737-9575.

Internet Commercial Artist will design arts/visual graphics for product ads in internet shopping sites with following duties: research on products/services and formulate concept art design/layout using freehand drawing and scratch layout, create sketches for clients review using PhotoShop, EasyPhoto, PrintShop, PhotoImpact and CorelDraw7, design animation graphics with Flash5 and WGT, prepare digitized drawings/pictures and complete final layout for Internet display utilizing HTML, JavaScript, Namo WebEditor5, consult with corporate clients to provide artistic suggestions. Requires BA/BS in Fine Arts, Studio Arts or Graphic Designing and must be able to perform all the job tasks on the day of hiring. Full time/competitive salary. Resume to HR, Computer Concepts, Inc. 11654 Dorsett Rd, St. Louis, MO 63043. No call/EOE.

SYSTEMS ANALYST to provide on-site consultancy to analyze, design, develop, implement and modify e-commerce applications using Java, Java Servlets, J2EE, DHTML, HTML, VC++, C/C++, VBScript, XML, HTTP, TCP/IP, JSP, EJB, ASP, Oracle, Sybase, SQL Server and related tools in Unix, Windows and Real-time NT environment. Require B.S. in Computer Science/Engineering and two years experience in the job offered. 25% paid travel required to client sites within the United States. Competitive salary and benefits. Apply with resume to Vice President, Compucom Global Solutions Inc., 200 Pemine Road, Suite 225, Old Bridge, NJ 08857.

Seeking qualified applicants for the following positions in Memphis/Collierville, TN: Senior Programmer Analyst. Formulate/define functional requirements and documentation based on accepted user criteria. Requirements: Bachelor's degree* in computer science, MIS, information technology, engineering or related field plus 5 years of experience in systems/applications development. Experience with Java, either C or C++ and development of transactional distributed systems/applications also required. *Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to Siti George, FedEx Corporate Services, 1900 Summit Tower Blvd., Suite 1400, Orlando, FL 32810. EOE M/F/D/V.

Network Administrator I. Entry-level position to install & support company LAN, WAN, Internet system. Develop company graphic & animation website, also assist to maintain, plan, coordinate & implement network security measures. Req. Bachelor's in C.S. or any computer related field. No exp. req. but must demonstrate ability to perform job through course work or project involving C, C++, graphic & animation programming. Resume w/ transcripts to: Pres., Color Imaging Inc., 4350 Peachtree Industrial Blvd., Ste 100, Norcross, GA 30071.

Computer Programmer. Develop, design, analyze & test J2EE applications using JSP, Servlets, JDBC, Oracle, PL/SQL, HTML, Java Script & Weblogic Application Server. Develop software applications using Signed applets & RMI. Req. Bachelor's or its foreign dgr. Equiv't in C.S. or other related engineering field + 2yr exp. in either job offered or Software Engineering or computer programming. Resume to President, Softech Int'l Resources, Inc., 3300 Holcomb Bridge Rd., Ste 270, Norcross, GA 30092.

ENGINEERING

Leading energy services provider seeks Systems Integration Engineer. BS or equiv in CS, Electronics, Engrng, Instrumentation Engrng or related. Must have 5 yrs exp design of control systems that includes 3 yrs exp middle ware, enterprise resource planning or database management; 1 yr design, specification and application of energy mgmt control systems web enabled tools, 6 mos exp systems integration web based data acquisition and programming of BMS integration protocols; knowledge C++, Java, SQL/Oracle database. Job location: White Plains, NY. Fax resume w/cover to attn: HR Dept-EIS at (914) 448-0057.

Network Administrator. Troubleshoot services, connections, installations; roll out & monitor production systems, maintain utilities w/client applications, database admin; maintain security of systems/data; share responsibility w/ administrators for 24/7 operating systems, network connectivity, system services (citrix servers etc.). Must have Bachelor's in Comp. Sci., Engg. or related; 1 yr exp. & knowledge of SQL database admin., NT/2000 systems admin., network mgmt., Citrix, IIS, Firewalls, Security. Send resume to Steve Alderfer, HRSoft, LLC, 505 N. 4th St., Fairfield, IA 52556.

Computers - Sr. Technical Consultants needed. Seeking qual. candidates possessing MS or equiv. and/or relevant work exp. Part of the req. relevant work exp. must include 2 yrs. working with Rational Rose, C++ & Open Market Transact. Experience with WebSphere preferred. Mail resume & ref. to: Object Solutions, Inc., Attn: HR, 3025 Harbor Lane, #312, Plymouth, MN, 55447-5119. Please refer to "STC" in your reply.

Programmers, Jr. Programmers, Software Engineers. Analyze, design and develop apps. in (a) MQ Series, Shell Scripts, Java and related tech., Oracle & related tools, SQL Loader, CGI/Perl, Visual Basic, AppWorx and related technologies; (b) C/C++, Cobol, PB, Sybase, Java, Oracle, SQL Server, XML, Unix, MQ Series, Weblogic and related technologies. US Workers only. Consulting positions requiring travel. Prevailing wage/benefits. Send resume to HR, Datum America Ltd., 850 Boyce Rd., Suite 7, Bridgeville, PA 15017. EOE.

The new itcareers.com and CareerJournal.com combined jobs database can help you find one.

Check us out at:
www.itcareers.com

Systems Analyst. Job location: Indianapolis, IN. Duties: Assist in design, develop & implem of Windows appls using Visual Basic, C++, SQL Server, Java & Oracle. Perform VB software maint. Test & troubleshoot new appls. Perform prob resolution & gen. maint of Windows appls & databases. Requires: B.S. in Comp. Sci., Eng. or a related field & 6 mths. exp. in the job offered or & mths. exp. as a Prog/Analyst or Prog. Concurrent exp. must incl. & mths. exp. using Visual Basic. Send resume (no calls) to: Lisa Tully, CTG, Inc., 5875 Castle Creek Pkwy., Suite 208, Indianapolis, IN 46250-4328.

Hill-Rom Services Inc. Batesville, IN seeks an Advanced Electrical Engineer, Biomedical Product Development. Must have Master's degree or equivalent in Biomedical Engineering or related field. Must have 2 years in the position offered or 2 years as a Program/Product Developer. Forward resumes to Mr. Jeff Lockwood, Hill-Rom Services, Inc., 1069 State Road 46 E, Batesville, IN 47006.

Sr. Software Engineer - Design/develop/qualify/test/support large scale client-server prod. in Windows NT/2000 translate designs to software prod. using Windows NT/2000, Borland Delphi/MS SQL/Paradox/Word/Excel/Access/XML/COM/DCOM. Bachelor's degree Computer Sc., Engineerg or related field + 2 yrs. exp. in position as Software Developer or as Software Eng. req'd. Must be proficient in Windows NT/2000 /Delphi/MS SQL/COM/DCOM. Competitive salary, 40 hrs/wk, OT as need. Send resume to D. Root, HR Director, Alogent, 4005 Windward Plaza, Alpharetta, GA 30005 Ref: KS.

VEGA, a NJ based consulting company, is currently staffing for long term, stimulating projects throughout the USA. We are hiring professionals with any of the following skills: AS/400, Cobol/DB2, VB, C++, Java/HTML, PowerBuilder, Siebel, SQL Server DBA. Submit resume emarcus@vegaconsulting.com

PROGRAMMER ANALYST to analyze, configure, and design computer programs utilizing Cobol, SQL, Java, XML, and utility customer information and billing software. Evaluates new business initiatives and requirements. Resolve technical issues as well as design and implement systems solutions. Require Bachelor's degree or equivalent in Computer Science, Engineering, Business, Math, Physics, or related field plus one year experience in job offered or one year work experience in analyzing, configuring and designing computer programs, and analyzing, configuring and designing computer programs utilizing 1) Cobol, 2) SQL, 3) Java, 4) XML, and 5) utility customer information and billing software. Must be available to work on projects at unanticipated sites throughout the United States. Send resumes to: SPL WorldGroup, Inc., 75 Hawthorne Plaza, Suite 2000, San Francisco, CA 94105, Attn: Job Code: 106 334.

SENIOR SOFTWARE ENGINEER: lead a team in the design, development, implementation and maintenance of complex web_based e_commerce and enterprise application integration applications software in a client/server environment using Object oriented technologies, MQSeries, MQSI (WMQI), MQAO, Web Methods, J2EE, C++, Java, CORBA, Orbix, Oracle and TCP/IP under SUN Solaris, UNIX, Linux, and Windows NT/2000 operating systems, supervise and mentor junior programmers and engineers. Require M.S. degree in Computer Science, an Engineering discipline, or a closely related field, with two years of experience in the job offered. Extensive travel on assignment to various client sites within the U.S. is required. Competitive Salary Offered. 8:00 am to 5:00 pm, M-F. Send resume to: Vishy Dasan, President, Objectnet Technologies, Inc., 1117 Perimeter Center West, Suite E104, Atlanta, GA 30338, Attn: Job KA.

SENIOR SOFTWARE ENGINEER to design, develop, test, implement, maintain and support n-tier application software using Java, Visual Basic, Oracle Weblogic, Onbase Kudos Application Server, RightFax, J2EE, JSP, Business Objects and DB2 under SUN Solaris operating system. Mentor junior programmers and engineers. Require: Bachelor's degree in Computer Science, an Engineering discipline, or a closely related field with 5 yrs. of progressively responsible exp. in the job offered or as Programmer/Systems Analyst. Extensive travel on assignment to various client sites within the U.S. is required. Competitive salary offered. Apply by resume to: Ravi Kandimalla, President, Everest Computers Inc., 900 Old Roswell Lakes Pkwy, Ste 300, Roswell, GA 30076, Attn: Job SJ.

JUNIOR SYSTEMS ANALYST: Design & implement new information systems. B.A. Comp Science/Math or equiv. & 2 years experience w/ Progress software. Must be proficient in PROGRESS 9.1B. Apply to: Transplatinum, Attn: Karen Freeman, 5042 Linbar Dr., Ste. 100, Nashville, TN 37211.

Business Process Analyst Work Sched: 9:00AM-6:00PM, 40 hrs/wk, $76,980.00 PA. Evaluate, analyze, develop, install, maintain & support client server database using Sybase, Oracle, UDB (Universal Database), MS SQL server & Net gateway in corporate facilities (vehicle assy plants & component mfg plants) in NA (U.S., Canada & Mexico). Evaluate, define software testing methods, redesign infrastructure & process & analyze systems using Unix-based systems, Sybase, CT-Libraries & C/C++ using object oriented methodologies. Use multiple application development tools including Power Builder, C/C++, Sybase & UDB database management system. Work in technical environment including IBM RS6000 Unix Master (or equivalent). Any Computer Science or Math Discipline. 1 Year exp. in Job or Related Occupation of Systems Analyst. 1 yr. of Related Occupation exp. must include analysis, installation & maintenance of client server databases using Sybase, Oracle, UDB server & Net gateway in vehicle assy &/or component mfg. plants in NA, which may be concurrent with Related Occupation exp. Employer Paid Ad. Send resume to MDCD, PO Box 11170, Detroit, MI 48202. Ref #210991.

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IDS

existing solutions are not perfect, but they are much better than nothing at all."

An IDS typically operates behind a firewall looking for patterns or signals in network traffic that might indicate malicious activity. Over the past two years, the sensor-based technology has been gaining increasing attention from users who see it as an added layer of protection against attacks that breach other defenses, such as firewalls and antivirus software.

However, several problems with IDSs make the technology more trouble than it's worth, said Richard Stiennon, a Gartner analyst and author of the IDS report.

The biggest is the fact that the systems impose a heavy management burden on companies by requiring full-time monitoring, Stiennon said. The tendency of such systems to generate a very large number of false alarms also adds to this burden, he said. The technology's inability to monitor traffic at transmission rates greater than 600Mbit/sec. can also be a problem, especially with widely deployed high-speed internal networks, according to Stamford, Conn.-based Gartner.

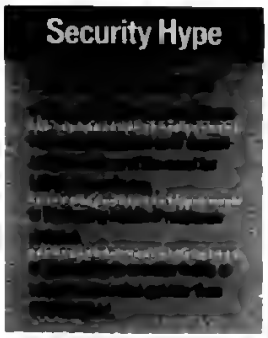
Because of these issues, IDSs will become obsolete by 2005, Stiennon predicted. Instead of spending on technologies that detect intrusions, companies would be more prudent to invest in technologies that are designed to prevent intrusions from occurring in the first place, such as "deep-packet-inspection" firewalls, he added.

"I don't know about obsolete, but IDS is not all the rage it was two to three years ago, that's for sure," said Michael Engle, vice president of information security at Lehman Brothers Holdings Inc.

When New York-based Lehman Brothers installed an IDS about three years ago, the system generated more than 600 alerts daily, he said. Since then, the firm has invested in an event-correlation technology for analyzing IDS data and distilling it into a more manageable volume, Engle said.

"I think it takes an inordinate amount of time to get meaningful IDS data from those systems, hence our investment in event-correlation software," he said.

Engle declined to identify the software Lehman is using, but vendors of such products include NetForensics Inc. in Edison, N.J., ArcSight Inc. in Sunnyvale, Calif., and Intellitactics Inc. in Bethesda, Md.



SOURCE: GARTNER INC., STAMFORD, CONN.

"We agree with a fair amount of the criticism" surrounding traditional IDSs, said Chris Hovis, a vice president at IDS vendor Lancope Inc. in Alpharetta, Ga. But using such issues to dismiss the technology entirely is a mistake, he said.

New correlation, statistical and rules-based filtering technologies are beginning to help companies cut through the noise generated by traditional IDSs and mine useful information from them, said Martin Roesch, chief technology officer at Sourcefire Inc., an IDS vendor in Columbia, Md.

"I think the Gartner report is shortsighted and ignores basic security principles," Roesch said. The notion that intrusion-prevention technologies can stop all attacks is just not realistic, making the need for IDS technology apparent, he added.

"While the technology has been plagued with issues from the past, such as high false positives, evasion tactics and mismanagement, the leading vendors in this space have responded with products that are very powerful in the hands of the right security staff," agreed Michael Rasmussen, an analyst at Forrester Research Inc. in Cambridge, Mass.

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N/MCI

Defense" and possibly in all of the federal government.

"Today, N/MCI is an industry standard," said Al Edmonds, president of EDS Government Solutions.

But some Navy users, senior officials and even EDS business partners raised concerns about the N/MCI program's approach to security.

"N/MCI is the most secure network in DOD? It's kind of hard to judge that," said Cathy Baber, director of information assurance at the Naval Network and Space Operations Command, which the Navy formed last year to oversee security for N/MCI. "There are still concerns. There are a lot of things that weren't thought about," she said.

One such issue is managing the certification process for connecting N/MCI users to the current Defense Information Systems Network (DISN), the Pentagon's main telecommunications backbone for both classified and unclassified data.

Vanessa Hallihan, program manager for IS security at the Space and Naval Warfare Systems Command, manages the DISN connection process. "We haven't yet come to grips with [N/MCI] as an enterprise process," she said. "The workload is very intense, and I don't have the resources."

Bart Abbott, director of information assurance programs at Raytheon Co., a subcontractor to EDS on the project, said he believes that the N/MCI project team has delivered on the Navy's need for a more secure network, though he acknowledged that there are still wrinkles in the N/MCI security fabric that need to be ironed out.

THE ASSOCIATED PRESS

For example, EDS has piloted the use of public-key infrastructure (PKI) technology at two user sites and plans to roll out PKI for all N/MCI users in conjunction with common access cards, or smart cards. But more work needs to be done to make PKI and smart cards easier to use, he said.

Abbott also acknowledged performance problems resulting from various security mechanisms, such as e-mail and Web content filtering at the connection points between N/MCI and the Defense Department's unclassified network, which is known as the Non-secure Internet Protocol Routing Network. In addition, users have reported full disk scans taking place during the log-on process.

"We've looked at the mobile user in particular," said Abbott, adding that EDS is trying to significantly improve network performance for remote access. It will take EDS and the Navy several months to improve remote access and make other network security adjustments, including the implementation of an updated virus-protection package that includes a spam filter.

Several industry representatives at the symposium also raised concerns about commercial contractors' inability to communicate with external entities, such as their own corporate offices.

"It's a difficult proposition, because the corporate environment is an untrusted environment from the Navy's perspective," Abbott said.

Lt. Col. Ken Buetel, director of the Marine Corps Information Technology and Network Operations Center, said some of his supporting vendors have raised the same issue. Buetel said he has been forced to tell them, "We really don't trust the corporate domain."

ALMOST THERE

More than 80% of planned N/MCI seats will be active by year's end, officials say

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IDS

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The biggest is the fact that the systems impose a heavy management burden on companies by requiring full-time monitoring, Stiennon said. The tendency of such systems to generate a very large number of false alarms also adds to this burden, he said. The technology's inability to monitor traffic at transmission rates greater than 600Mbit/sec. can also be a problem, especially with widely deployed high-speed internal networks, according to Stamford, Conn.-based Gartner.

Because of these issues, IDSs will become obsolete by 2005, Stiennon predicted. Instead of spending on technologies that detect intrusions, companies would be more prudent to invest in technologies that are designed to prevent intrusions from occurring in the first place, such as "deep-packet-inspection" firewalls, he added.

"I don't know about obsolete, but IDS is not all the rage it was two to three years ago, that's for sure," said Michael Engle, vice president of information security at Lehman Brothers Holdings Inc.

When New York-based Lehman Brothers installed an IDS about three years ago, the system generated more than 600 alerts daily, he said. Since then, the firm has invested in an event-correlation technology for analyzing IDS data and distilling it into a more manageable volume, Engle said.

"I think it takes an inordinate amount of time to get meaningful IDS data from those systems, hence our investment in event-correlation software," he said.

Engle declined to identify the software Lehman is using, but vendors of such products include NetForensics Inc. in Edison, N.J., ArcSight Inc. in Sunnyvale, Calif., and Intellitactics Inc. in Bethesda, Md.

Security Hype

Some problems with IDSs:

- False positives and negatives
- Increased burden on IT departments because of the need for full-time monitoring
- The taxing incident-response process
- An inability to monitor traffic at transmission rates greater than 600Mbit/sec.

"We agree with a fair amount of the criticism" surrounding traditional IDSs, said Chris Hovis, a vice president at IDS vendor Lancope Inc. in Alpharetta, Ga. But using such issues to dismiss the technology entirely is a mistake, he said.

New correlation, statistical and rules-based filtering technologies are beginning to help companies cut through the noise generated by traditional IDSs and mine useful information from them, said Martin Roesch, chief technology officer at Sourcefire Inc., an IDS vendor in Columbia, Md.

"I think the Gartner report is shortsighted and ignores basic security principles," Roesch said. The notion that intrusion-prevention technologies can stop all attacks is just not realistic, making the need for IDS technology apparent, he added.

"While the technology has been plagued with issues from the past, such as high false positives, evasion tactics and mismanagement, the leading vendors in this space have responded with products that are very powerful in the hands of the right security staff," agreed Michael Rasmussen, an analyst at Forrester Research Inc. in Cambridge, Mass.

Continued from page 1

N/MCI

Defense" and possibly in all of the federal government.

"Today, N/MCI is an industry standard," said Al Edmonds, president of EDS Government Solutions.

But some Navy users, senior officials and even EDS business partners raised concerns about the N/MCI program's approach to security.

"N/MCI is the most secure network in DOD? It's kind of hard to judge that," said Cathy Baber, director of information assurance at the Naval Network and Space Operations Command, which the Navy formed last year to oversee security for N/MCI. "There are still concerns. There are a lot of things that weren't thought about," she said.

One such issue is managing the certification process for connecting N/MCI users to the current Defense Information Systems Network (DISN), the Pentagon's main telecommunications backbone for both classified and unclassified data.

Vanessa Hallihan, program manager for IS security at the Space and Naval Warfare Systems Command, manages the DISN connection process. "We haven't yet come to grips with [N/MCI] as an enterprise process," she said. "The workload is very intense, and I don't have the resources."

Bart Abbott, director of information assurance programs at Raytheon Co., a subcontractor to EDS on the project, said he believes that the N/MCI project team has delivered on the Navy's need for a more secure network, though he acknowledged that there are still wrinkles in the N/MCI security fabric that need to be ironed out.

A V-22 Osprey hovers above the runway at the Naval Air Station in Patuxent River, Md., one of the first units to monitor how well EDS meets its service-level agreements under the N/MCI contract.

For example, EDS has piloted the use of public-key infrastructure (PKI) technology at two user sites and plans to roll out PKI for all N/MCI users in conjunction with common access cards, or smart cards. But more work needs to be done to make PKI and smart cards easier to use, he said.

Abbott also acknowledged performance problems resulting from various security mechanisms, such as e-mail and Web content filtering at the connection points between N/MCI and the Defense Department's unclassified network, which is known as the Non-secure Internet Protocol Routing Network. In addition, users have reported full disk scans taking place during the log-on process.

"We've looked at the mobile user in particular," said Abbott, adding that EDS is trying to significantly improve network performance for remote access. It will take EDS and the Navy several months to improve remote access and make other network security adjustments, including the implementation of an updated virus-protection package that includes a spam filter.

Several industry representatives at the symposium also raised concerns about commercial contractors' inability to communicate with external entities, such as their own corporate offices.

"It's a difficult proposition, because the corporate environment is an untrusted environment from the Navy's perspective," Abbott said.

Lt. Col. Ken Buetel, director of the Marine Corps Information Technology and Network Operations Center, said some of his supporting vendors have raised the same issue. Buetel said he has been forced to tell them, "We really don't trust the corporate domain."

ALMOST THERE

More than 68% of planned N/MCI seats will be active by year's end, officials say.

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Why Bad Ideas Stick

EVER NOTICE how bad ideas just keep coming around? It happened again last Tuesday at a U.S. Senate Judiciary Committee hearing on online music piracy, where committee chairman Orrin Hatch asked antipiracy experts about ways to damage the computers of people who illegally download files. When one vendor of antipiracy technology replied, "No one is interested in destroying anyone's computer," Hatch interrupted, "I'm interested.... If that's the only way, then I'm all for destroying their machines" (see story, page 10).

Sound familiar? It should — it's a hyperventilated version of last summer's "license-to-hack" proposal.

You remember that one: U.S. Congressman Howard Berman from California wanted to let copyright owners use something he called "technological self-help" instead of legal action to stop online piracy.

Berman's idea — and it was a truly awful idea — targeted the same peer-to-peer networks that Hatch's committee was holding hearings about. Under Berman's plan, a copyright holder who suspected someone of infringing on those copyrights could actually break into a suspected pirate's computer and plant malicious code — and would be protected from liability for any damage that was caused.

Wouldn't that be handy? No evidence, no expensive and time-consuming legal processes that might result in a judge or jury deciding there was no piracy after all. Instead, all a copyright holder would need was a suspicion — and a willingness to sabotage.

Of course, to make sure peer-to-peer pirates didn't slip through loopholes in a law too narrowly drawn, a license-to-hack law would have to be written as broadly as possible, targeting any network suspected of containing copyright-infringing material.

So if, say, a software vendor suspected your company of having unlicensed software on its network — whether that suspicion was true or not — the vendor could, hypothetically, break in and even sabotage your computers under Berman's proposal.

Would that be a legal stretch? Maybe. But any vendors that tried it could claim that they really did believe their copyrights were being infringed upon and that the law shielded them from having to pay for any damages resulting from their sabotage.

All in all, a very bad idea. Fortunately, not long after Berman introduced his bill, it sank without a trace.

Now, a year later, it has resurfaced — in the hands of a much more powerful lawmaker.

Is it still such a bad idea? Well, let's see: Last year, the recording industry succeeded in shutting down Napster. In the year since, the recording industry has continued to win most of its legal battles. Judges have issued orders. Music pirates have been identified and fined. In short, the courts are dealing with the problem. The system works just fine. There's less need than ever for a license-to-hack law.

Meanwhile, the risks of a license-to-hack law have gotten a lot less hypothetical. For example, if The SCO Group had a license-to-hack law to use, it wouldn't need to bother with proving any claims against IBM in court. SCO could simply — and legally — launch viruses, worms, Trojan horses or other electronic attacks against anyone running AIX, Linux or any other software that SCO claimed contained its copyrighted code. And if it eventually turned out that SCO's claims were wrong? AIX and Linux users would still have been sabotaged — with no recourse.

It's probably just a coincidence that Orrin Hatch happens to be SCO's senator. But you'd think the chairman of the Senate's committee on judges and courts would understand why we *have* judges and courts — and why vigilante attacks of any kind are a bad idea.

Too bad we can't trust our lawmakers to understand that. And it's too bad those bad ideas will just keep coming around. ◗

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